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LEADING ARTICLES

THE USE OF SIMPLE HYDROTHERAPEUTIC MEANS IN THE TREATMENT OF CHRONIC NEPHRITIS.

ALFRED C. CROFTAN, M. D.

CHICAGO, ILL.

If we have erred in the past in giving too much medicine, we are inclined possibly to err nowadays in not availing ourselves as fully as we should of non-medicinal measures. Physical means of treatment are today regarded with much favor by the laity. There is a reaction in the popular mind against drugs, and, whereas, formerly our patients clamored for a prescription and thought nothing was being done for them unless they carried home a bottle of medicine and a box of pills or two, we nowadays more and more frequently encounter patients who urge that they be given no medicine at all, but that they be told instead what to eat and how to live.

The application of physical methods is especially useful in chronic disorders. For it is surely a matter of extreme difficulty to proceed safely in such cases with dietetic and medicinal means alone. This applies particularly to the treatment of chronic nephritis.

For if we feed the patient, for instance, on

an exclusive milk diet* for the purpose of sparing the kidney and reducing intestinal putrefaction, we run great danger of under-feeding the subject and of flooding the stomach and the cardio-vascular apparatus with such enormous quantities of liquid that digestion is interfered with and the heart and arteries are subjected to a serious strain. If, again, we should reduce the liquid intake too much and place the patient on a dry diet the urine becomes too concentrated and constipation with the absorption of bowel poisons that irritate the kidneys, the heart and the peripheral arteries is very apt to supervene.

The continuous use of drugs is also fraught with many inconveniences; for, in the first place, the prolonged use of medicines is bound sooner or later to injure those organs that are concerned with their absorption and elimination, notably, the stomach, the liver and the kidneys; moreover the effect of most drugs that we might give for the sake of reducing the blood pressure or stimulating catharsis or diaphoresis is exceedingly transitory and the organism soon becomes accustomed to them.

If the patient has been treated largely by hydrotherapeutic means, and if his diet has, at the same time, been properly regulated, then he always has drugs to fall back upon in emergencies should alarming symptoms develop that require energetic treatment. And as a rule it will be found that much smaller doses of the different medicines will be required in such cases to produce the desired effect than in patients who have been habituated for long periods of time to the use of cardiac tonics, vaso-dilators, cathartics, diuretics, diaphoretics, etc. This is a great advantage.

As it is manifestly impossible to cure organic lesions of the kidney by any remedial measures, treatment must be directed towards the secondary consequences that follow renal disease; besides, the principle of rest to the diseased organ may be utilized, for if the kidneys are spared, the reparative processes of Nature can proceed unhindered towards the regeneration of diseased tissue in the kidney or vicarious hypertrophy of healthy parts to take the place of those that are diseased.

Until very recently we were inclined to believe that in most chronic diseases involving the kidneys, the kidneys were the primary

* See Croftan "The Dangers of an Exclusive Milk Diet in Nephritis," American Medicine, May, 1903.

organs affected and that the other manifestations about the heart, the arteries, the brain, the retina, the nervous system and the general metabolism were secondary to renal insufficiency. Of recent years we have learned to understand, however, that the renal affection is frequently the secondary event and the result of a variety of primary causes that affect the digestive tract, the liver, the general metabolism and act upon the kidneys either through intoxications that are engendered by these variations or through the medium of the cardio-vascular apparatus. Especially in Bright's disease have we arrived at what we call the newer conception of the disorder according to which a chronic intoxication is the primary cause leading directly to marked high arterial tension, and later to a variety of nutritional disorders, first functional and then organic in character, involving chiefly those organs of the body that are supplied by end arteries; for in the latter impairment of the circulation and changes in the caliber of the nutrient afferent arteries must needs first lead to degenerative changes. Such end organs are chiefly the kidneys, the retina, the brain, and possibly, the gums, and it is for this reason, as I showed in a recent article,* that we so often see develop simultaneously in the brain, eye and kidneys symptoms of Bright's disease, and not unfrequently witness high arterial tension with apoplexy or retinal hemorrhages at a time when the kidneys are only slightly involved or not affected at all. Therefore, one of the most important elements in the treatment of any form of chronic nephritis is the treatment of the cardio-vascular signs, immaterial, as a matter of fact, whether we imagine these to be the primary event, or secondary to the kidney trouble; for most of our kidney cases die, not from the kidney trouble per se, but from the changes about the heart and arteries.

Three elements enter into the physiology of arterial tension, viz., the amount of the blood, the force of the contraction of the heart and the degree of peripheral resistance. From the heart emanates the force that propels the blood into the arteries and causes the tension of their walls. The peripheral resistance by creating an obstacle to the evacuation of the arteries causes an accumulation of the blood in these vessels and tension of their walls with a reactive elastic pressure that propels the blood onward. The mass of blood finally is the intermediary agency that driven from behind and compressed from in front distends the arteries to such a degree that the elastic powers of their

walls can become operative. Increased or decreased, these three factors determine variations in the blood pressure; and all three factors can be profoundly influenced by hydropathic measures.

Changes in the peripheral resistance can be brought about both by cold and by hot applications. In chronic arterial diseases the latter, however, should have the preference for this reason:—The application of cold always at first produces a contraction of the peripheral vessels followed very shortly by a dilatation called "the reaction." This physiological reaction that leads to reduced blood pressure cannot be utilized with safety in most cases of chronic nephritis: (1) Because the primary contraction of the peripheral vessels causes a sudden increase of the arterial tension and may, in predisposed subjects, produce rupture of the weakened blood vessel walls in the brain, the retina or elsewhere; (2) because the cold causes an increase of the heart's action by a nervous reflex that is transmitted directly to the cardiac ganglia; (3) because, in chronic nephritis, the reaction may fail altogether owing to lack of tone, or possibly to anatomic changes in the musculature of the peripheral arteries, or on account of myocardial changes.

The method or choice, therefore, for reducing the peripheral blood pressure is the application of heat to the body surfaces; for hot applications, provided the degree of temperature is not too high produce from the beginning cutaneous hyperemia without preceding contraction of the peripheral blood vessels, and if continued, true relaxation of the muscular coats of the peripheral arteries with a corresponding fall in the blood pressure. Moreover, heat causes a long lasting loss of tone on the part of the peripheral blood vessels, in other words, a prolonged vaso-dilator effect, whereas the reaction following cold applications leads to what may be called a tonic congestion of the peripheral vessels, during which the tone of the blood vessels is fully preserved so that contraction soon follows. Heat, moreover, if applied for a sufficient length of time produces dilatation not only of the cutaneous vessels, but also of the deep blood vessels, whereas, the dilatation of the superficial vessels produced by cold is usually accompanied by intense contraction of the deep vessels, an effect that leads rather to high than to low blood pressure. The fall of blood pressure, therefore, following hot applications is much more permanent and its production fraught with less dangers than the decrease of arterial tension produced by cold or by medicinal vaso-dilators.

* See Croftan: "The Circumstances and Treatment of Bright's Disease," Jour. A. M. A., January 6, 1906.

The simplest way of applying heat to the surfaces of the body for the purpose of reducing blood pressure is to give the patient what may be called a "hot soak," i.e., the patient is instructed once or twice a day (for practical purposes, best early in the morning and late at night) to lie perfectly still for five or ten minutes in a bath tub filled with water a few degrees below the temperature of the body. If it is desired to increase the effect friction may be applied for a time by an attendant while the patient is immersed in the bath.

The addition of a few pounds of salt to the water or immersion in warm carbonated water is very useful because the salt and the carbonic acid both assist in relaxing the peripheral capillaries. The bathroom should always be kept very warm for the capillaries of the skin are relaxed after the bath and should be kept so as long as possible; if the room is cold sudden contraction of the cutaneous vessels occurs and therewith a rapid rise of blood pressure and an increased strain upon the heart; all effects that one is precisely trying to avoid. In cases, moreover, in which the vasomotor tone is below par, and this is common in cardio-nephritic cases, there is always considerable danger of catching cold. The best plan of all is to have the patient lie down in a warmed bed for a time after the bath.

One other important point must further be considered in using this plan, viz., the occurrence of collateral hyperemia in various parts of the body, especially the brain. For this reason the head should always be covered with cold cloths or an ice bag during all the time the patient is in the water. It will be found that this plan not only reduces the blood pressure for many hours thereafter, but also slows the heart and reduces the force of its contractions. Occasionally the rapidity of its action is slightly increased, especially after the patient leaves the bath. In such cases the application of the ice bag to the precordial region or of cold cloths to the nape of the neck may be employed to reduce the number of heart beats. Moist heat is vastly superior to dry heat for reasons that will be presently discussed.

A marked effect can further be exercised by hydrotherapeutic measures upon the composition and the volume of the blood. From all that has been said above, it is clear that cold applications are absolutely counter-indicated in any case of nephritis owing to the sudden initial rise of blood pressure and the nervous shock to the heart that they engender. It is useless, therefore, to discuss in this place the interesting effect that cold applied to the surfaces of the body can exer-

cise upon the percentage of leucocytes and red corpuscles, and upon the specific gravity and the volume of the blood; and we will concern ourselves therefore exclusively with the use of hot applications in order to see what effects may be beneficial in nephritis and that we usually attempt to produce by drugs or diet, can be produced by heat.

The application of dry heat, i.e., the electric light bath or hot air, applied in different ways, always produces a greater concentration, i. e., a decrease in the total volume of the blood. This is due, of course, to the loss of water through the sweat glands, and while this practice by accelerating the current of lymph may act beneficially in the absorption of edemas, I have never been able to convince myself that sweating produced in this way is beneficial in cases of nephritis without edema; for while some solids are lost through the sweat glands, the loss of water is immeasurably greater, and the concentration of the blood is so much increased by this practice that whatever toxic bodies may be circulating can undoubtedly exercise a more deleterious effect in a concentrated than in a diluted form. The reduction of the blood pressure that might result from a decrease in the volume of blood is offset by the greater toxicity of the circulating fluids, for the pressor principles they contain are not eliminated via the sweat glands. If dry heat is applied, then the patient, should at all events, at the same time be given very copious draughts of water to compensate for the loss of water by diaphoresis, but as this practice undoubtedly throws a great strain upon the heart and arteries that have to pump this water from the stomach to the emunctories of the body, I have always felt that the benefits accruing from sweating by dry heat are more than neutralized by all these disadvantages.

For this reason, if sweating is to be produced at all, it should be done by means of moist heat, and here again, the method of choice is without doubt immersion for five, ten or fifteen minutes in water heated slightly above the temperature of the body. It will be found that when this plan is adopted, the concentration of the blood does not increase, as manifested by determinations of its specific gravity, freezing point, and electric conductivity. It is possible, as Wick has suggested, that the loss of water through the sweat glands is compensated by the absorption of water from the tissues, superinduced and aided by the pressure exercised from without by the water of the bath; at all events, immersion in hot water, aside from lowering the blood pressure by prolonged vaso-dilatation causes a certain loss of ex-

crementitious solids through the sweat glands without causing great concentration of the body, therefore, greater toxicity of the latter, and without consequently necessitating the administration of much water by mouth. In other words, if properly carried out, immersion in hot water really aids the body in getting rid of both solids and water with safety.

In all diseases complicated by high arterial tension and an irregular and excitable heart action, and to this category belong practically all cases of chronic nephritis, it is a matter of great importance to allay the nervous irritability. We should always endeavor to do this physically by allaying the patient's fear, trying to keep him from worrying about his condition and advising him not to lead too strenuous a life, and we usually enforce this effect by sedative remedies. Very much can be accomplished in this direction with complete safety by hydrotherapeutic means. This fact is so well established that nowadays the standard and most successful treatment of neurasthenia and of many psychoses complicated with excitement, consists in the use of hydrotherapeutic means. As a rule it is impossible to carry out such treatment at home. Certain simple measures that are of great value in quieting the sensibility of the whole nervous system, including the vasomotor nerves, can, however, be carried out in the house, and chief among these, again, is the use of warm water and by preference, the prolonged hot bath.

Upon the general metabolism the use of hot water also exercises a very profound influence that is particularly valuable in nephritis. For, immersion of the body in hot water for some time, by preventing the loss of heat by radiation, and incidentally, by causing dilatation of the blood vessels supplying the muscles, causes an acceleration of metabolism, particularly of the non-nitrogenous constituents. This is a valuable effect in nephritis as it prevents to a certain degree the accumulation of waste products in the blood and relieves the kidneys of the necessity of excreting them. In obese subjects a considerable loss of fat can be brought about in this way, especially when judiciously combined with proper exercise treatment, and that this is invaluable in any form of cardiovascular disease need hardly be emphasized.

The use of dry heat is again not safe in nephritis, on account of its effect upon metabolism because the body at once consumes an increased amount of its own nitrogenous constituents to make up for the loss of heat by radiation; in this way flooding of the blood stream with urea and bodies that are intermediary between albumen and urea is brought

about. Whenever this occurs increased labor is thrown upon the kidneys, as they must rid the body of this circulating waste material.

Upon the digestion, i.e., upon the secretory and motor function of the stomach and bowels, hydiatic procedures also exercise a profound influence. Unfortunately, however, the measures that are most efficacious in promoting increased secretion and improved motility are cold hydiatic means, and these we cannot employ. The one cold measure that is useful and that can be applied with safety is, the application of cold locally over the liver, either in the form of a Priessnitz compress or in the form of a cold stream of water directed upon the hepatic region with the rest of the body protected. This process stimulates the hepatic function and promotes an increased flow of bile. In view of the presumably hepatic origin of many forms of Bright's disease,* this is a useful adjuvant to treatment, especially since the entrance of much bile into the upper portion of the bowel reduces intestinal putrefaction. This is one of the most desirable effects that can be obtained in nephritis, an effect that we usually attempt to bring about by dietetic and medicinal means.

In conclusion, a word should be said in regard to the effect of hydiatic procedures upon the flow of urine. Cold applied to the surfaces of the body, as is well known, stimulates diuresis both by raising the blood pressure and presumably also by a reflex action upon the musculature and the sensory nervous apparatus of the bladder. This becomes manifest by the almost instantaneous desire to urinate that patients develop as soon as cold measures are applied. As cold is eschewed in nephritis, we cannot make use of this procedure, but I do not consider this a disadvantage, for I have never been able to convince myself that the stimulation of diuresis is a desideratum in chronic nephritis. Any measure that increases the flow of urine, by implication stimulates, even irritates the kidneys, immaterial whether the stimulus be a drug acting directly upon the secretory mechanism of the kidneys or upon the blood pressure within the kidneys. When the kidneys become diseased they at once fail to eliminate certain bodies properly, but to force them to eliminate, nevertheless, is a precarious procedure, for it violates one of the fundamental principles of the treatment of a functionally inadequate organ, viz., that this organ should be rested rather than irritated and forced to work. For rest alone will enable Nature to institute the necessary reparative processes

*See Croftan "The Circumstances and Treatment of Bright's Disease," Jour. A. M. A., 1905.

and to hasten recovery. Consequently heat is again useful, for it lowers the blood-pressure in the kidneys, and consequently may somewhat reduce diuresis; but it also spares the kidneys by soothing rather than irritating the nervous apparatus that superintends the manufacture and excretion of urine.

It will be seen, therefore, that such simple measures as hot bathing, properly administered, and the application of hot or cold to various portions of the body, can accomplish much in the treatment of the nervous, metabolic, gastro-enteric and cardio-vascular manifestations of nephritis, that we ordinarily attempt by diet and drugs. That a judicious selection of the diet, especially with the end in view to maintain adequate nutrition is an indispensable adjuvant to treatment is, of course, not denied; for otherwise the organism cannot maintain those reactive and recuperative powers that alone can bring about an amelioration of the disease, and, as far as that may be possible a restitution to normal. Drugs, on the other hand, in my opinion, should be given very sparingly in chronic nephritis for reasons that have already been outlined. They should always be reserved as an emergency measure and hydrotherapeutic means should replace them wherever that is possible. That this can be done and how it should be done I have attempted to explain in the preceding paragraphs.

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SYMPTOMS OF INTESTINAL OBSTRUCTION.—

These have been shown by Kukula to depend largely on autointoxication, particularly by hydrogen sulphid, methylmercaptan and pentamethylene diamin. Indicanuria is very marked with obstruction involving the small intestine.

UNRECOGNIZED EPILEPSY.—W. P. Spratling, Sonyea, N. Y. (Jour. A. M. A., March 10), notices the fact that many cases of epilepsy go unrecognized for years to the damage of any prospects of cure. He attributes this in part to a false conception of the disease—that it is a convulsive disorder—and in part to the non-recognition of its early manifestation such as "worm fits," "teething fits," which are considered as innocent in character when they should be always looked on in the most serious light. If a child has these, even if they apparently disappear with infancy or childhood, its convulsive tendency should be respected throughout its natural life, especially at the critical periods of its existence. He pleads for the early recognition and correct estimation and due treatment of the convulsive symptoms of infancy that so often mean epilepsy in later life.

HEREDITY; ITS INFLUENCE ON DISEASES OF CHILDREN.

FRANK M. FULLER, A. M., M. D.

KEOKUK, IA.

THE problem of heredity seems, upon its surface, so simple that it is not until one has gotten beneath and seen its diversity, that it becomes alluring.

"Like begets like" seems a truism comprehensible to all. Many comprehend no more. The theories to account for heredity in reproduction have been argued till there are now several distinct schools. Most biologists and naturalists find their beliefs lying somewhere between the extreme presentation of Darwin on the one hand, and Wiesmann on the other.

To have any conception of how heredity is maintained it becomes necessary for us to understand and premise with one of these theories, as held by Spencer, Haeckel, Galton, Brooks, Darwin or Wiesmann.

Darwin's theory, which is one of pangenesis, holds that all cells of the body throw off minute granules, which are collected from all parts of the body, into the reproductive centers. That these granules, containing all the male and female elements, and representing every tissue of the body, under proper conditions will reproduce a new organism. In this reproduction, however, only a small portion of the granules are used, the rest lying dormant in the new organism to continue the reproduction of its kind in any future generation.

Weismann's theory as originally given is that the body is made up of nutritive cells called "soma," and reproductive cells called "germ plasm." That the latter only enter into the formation of a new being by union with germ plasm of an opposite sex. That only a part of this germ plasm is used reproducing the muscles, bone and organs while the remainder is stored in the reproductive centers, independent of all other cells and used only in again reproducing the kind.

Under the latter theory, the germ plasm, being entirely independent of the soma or nutritive cells, cannot be acted on by the forces of environment; consequently whatever change in function may be produced with its new tendencies, there can be no inheritance of these new acquirements, because the reproductive germ plasm remains unchanged.

This theory is strongly held by many biologists, and as strongly opposed.

Environment is simply the sum of the forces, whatever they may be, climate, heat, cold, wealth, poverty, civilization, barbarism,

ignorance, vice or virtue, which impinge in their influence upon the cells of the organism. It is difficult to conceive of any force acting upon some cells without acting upon all. If environment acts upon all, then all must meet force with force, and because of this struggle undergo change, that is attain acquired tendencies, which new tendencies, being in the reproductive cells, as well as in the others must be transmitted.

So in this paper we ally ourselves with those who hold that acquired tendencies can be inherited. A very vital premise, as will be seen, for to deny this is to assume that all progress must come only by the slow process of natural selection.

Assuming then that each multicellular organism contains elements which will reproduce a like organism, and that these organisms are constantly subject to forces impinging upon them, that we call environment, which forces demanding new functions, will produce new tendencies, we will see what conclusion we can draw.

Does "like produce like?" Not in a reality. No two parents are alike. They both belong to genus homo. They differ greatly in tendency. Their child is unlike the one, and like the other, or is unlike both.

In heredity we cannot consider only the immediate parents, for the child may be physically, mentally and morally unlike both parents, but the counterpart of a grandparent. Or may take some qualities from one grandparent, others from a parent and possess still others which arise away back of either. When we recognize this we are brought against the stupendous fact that our inheritance is the gathered tendencies which have developed through all the forebears, who stretch back through all the millenia of man's existence.

Our heredity is complex. We have two parents, four grandparents. They each in turn were born of two, until by retrogression we find our ancestors coexistent with the human race.

If like produces like, how can we recognize people when recognition depends upon their differences? How does it come that one black sheep will be produced in a carefully herded flock of white ones? Or seemingly common stock produce a fast trotter, or black eye parents, born of others with black eyes produce a blue eye child.

A woman may from childhood carry through the cells of her body the distinctly male characteristics of her father, such as his beard and his masculine form, and bestow them upon her male offspring. These are apparent contradictions of heredity, but we must remember that the law of variation is coexistent with the law of heredity. These

variations are but expressions of inherited tendencies which have been latent through many generations. The dark sheep, the fast horse, the blue eye have all come from dark sheep, fast horses, or forebears with blue eyes who have passed their tendencies on in former generations, but which tendencies have been overcome by prepotency.

The individual will inherit tendencies common to all mankind, because he has arisen from this genus of organized beings. These give him his form, his organs, his brain. He will likewise inherit the variations which are characteristic of his immediate progenitors, which will make him resemble them in feature, color, gait, habit, character or mind. These variations may be small and insignificant, or they may be so large as to produce monstrosities. They may amount to only a mannerism of walk or the length of a nose, or they may be such malformations as cleft palate, hare lip, club feet, or idiocy.

Variation does not occur so much where a people or a nation live all under the same environment. For the reason: where the surrounding forces are the same all the cells are acted upon by, and react to, these forces until an equilibrium is established. But let these forces be diversified. They then act with different power upon the different organisms. The force being varied the reaction is not the same, and after a time the cells must undergo change in accordance with this difference. The result is a variation in function which shows in individuals. The effort to meet and overcome the forces of environment producing the strong, its opposite the weak individual.

Absolute freedom, under law, of individual action in meeting the conditions of environment is the only safety of civilization.

To maintain equilibrium by continuing the same environment is to stop progress. A field of flowers growing wild, and year after year, subjected to exactly the same forces will show very little variation; change them into a garden, water them, fertilize their soil, protect them from extremes, in fact change their environment, and they will soon react to this change. In attempting to regain a new equilibrium they will show marked variations.

Primitive or uncivilized people live under a common environment. All individuals are subject to about the same conditions of life. They find an equilibrium between the reaction of their cells and the action of their environment and progress ceases or is very slow. But put this people under a new environment, they will either succumb to the effort necessary to meet the new forces, or variations will arise which after a time produce a changed people.

The foregoing may look as though environment superseded the law of heredity. Not so. "You may break, you may shatter the vase if you will, but the scent of the rose will cling round it still." Your wild rose, transplanted to your conservatory, will produce nothing but a rose, varied by its environment, but still a rose holding to its inherited tendency to return to its original condition of single petals.

A savage may through the centuries become a poet, but it is a man at both ends of the line.

Nations are only relatively superior and inferior, and so possibly with races, but when races of men of different qualities unite it generally destroys the finer qualities of the better one. The common and deep abhorrence of miscegenation of the races is based upon the knowledge of this fact.

Nor can this loss be made good. You can not raise figs from thistles even if it were possible to graft a fig upon a thistle.

Darwin says animals inhabiting wild and mountainous countries cannot be permanently modified by our improved breeds.

These facts are applicable to individuals as well as to races and breeds. "Evil communications tend to corrupt good manners." With man as well as all life *ex omnia ovum*. But all eggs are not alike. A child is developed from the union of two microscopic parent cells. These cells after their union divide and subdivide in a most wonderful manner forming the various tissues. Each cell of the new being contains a portion of the initial cell of each parent. The forces of each portion may be not equally divided. In some the mother predominates; in some the father. There is a common mistaken belief among the laity that intrauterine life, the blood of the mother enters the child. The only part of the mother in the child is the single cell from which it develops after fertilization. That fertilized cell of male and female elements contains within its microscopic self all the initial energy for the production of blood, bone, hair, teeth, skin and every tissue. That energy starts the wonderful division and differentiation which in a few months results in the perfect miniature.

Would that women might comprehend more of the beauty of that miracle, which in cold terms is called embryology. Only a portion, however, of the germ plasm furnished by the parents is utilized in the formation of the body, the remainder is stored up in that body as germ plasm capable of reproducing its kind. Thus man has produced man from earliest history, and will continue to produce nothing else. Having then within us the accumulated tendencies

of our parents, grandparents and forebears indefinite, is it any wonder that we have such composite characters? Good impulses struggling against bad; kindness against cruelty; selfishness following close on the heels of generosity, or love calming the high waves on a sea of hate. These impulses are not transmitted equally. Here some lie dormant, or are so overcome by accumulated opposite tendencies that they are apparently destroyed.

In the diversity of our parentage lies the admixture of tendencies which goes to make for our character. To constantly transmit the same tendencies means to come near an equilibrium; that is, to rest, to lack of progress and finally degeneration. This fact is recognized in the laws of many states forbidding the marriage of cousins. Cousins who marry have fewer ancestors back of them than those who are not consanguineous. Their parents having a common parentage may have taken from those parents similar constitutions, or they may have not. Similar organisms do not produce as fertile nor as stable offspring as dissimilar ones. If cousins are unlike in constitution, tastes and tendencies they may bear children who do not lack in fertility or vigor. If both, in common phrase, "take after the same side of the house," their offspring, if any, is liable to be sterile, weak, or even degenerate.

The well known tendency in many royal families to degeneracy, is due to their close intermarriage. Instead of their boasted long line of ancestors they really have a shorter one than their subjects. Stock-breeders know that what is called inbreeding gives a weakened and unstable product.

Now let us see into what an apparent contradiction our argument has led us. We have our tendencies accumulated through inheritance from a long line of progenitors. In fact we all have a common heritage. Why then does it make a difference if this common heritage, that is, the accumulated total of all previous tendencies is transmitted through two grandparents as in cousins, or through four grandparents in non-consanguineous marriages. It would make no difference if each ancestor handed down this heritage of accumulated tendencies just as he received them. But he cannot.

Each one lives in an environment which has an effect upon him. All force must produce reaction; consequently each one's heritage is altered and what he transmits is his accumulated tendencies plus the influence on those tendencies of his environment. He or she increases or subordinates, either for good or ill those tendencies just in proportion as he or she reacts to his or her environment.

This personal element is what makes our responsibility. It is what takes away from heredity its apparent fatalism. To consider the subject now more specifically, what influence has heredity on the individual in his struggle for existence? Does it affect his physical body in form, size or perfection? his brain and mental powers and his moral qualities? In regard to his body the marked family resemblances of face, form, expression, color of hair, eyes, gait and peculiarities are too strong an evidence to be refuted. The mould and imprint of a grandfather's features on a new-born child have no other interpretation. Can abnormal physical conditions be transmitted? Not directly, but by tendency. Heredity, it must be always kept in mind is only transmission of tendencies.

I have presented at the clinic five brothers, all of whom had six fingers. Their mother was one of four six-fingered children in a family of seven. The grandmother had five fingers, but had a six-fingered brother. No further history could be obtained. If the abnormal physical condition was transmitted directly all would have been six-fingered. Some had missed the tendency.

The tendency to cleft palate, harelip, club feet, abnormally placed teeth, vitiligo and many physical abnormalities runs clearly through families.

Most inmates of our insane hospitals have a family history of different forms of nervous or mental disease and signs of degeneracy. Color-blindness, deafmutism, near or far-sight show in ancestry and posterity.

I merely cite these to show that the tendency to bodily infirmities may be transmitted, and not to prove that the lame, the halt and the blind come directly from such ancestry. You cannot keep too clearly in mind that heredity has to do alone with tendencies. A person with some organic or functional disease of the nervous system may unite with one of phlegmatic temperament and with no tendency to a nervous condition. The stable condition of the one may, by its prepotency, overcome the tendency of the other and a healthy being result. But if that instability or lack of resistance be augmented by union with another of the same tendency the offspring may develop an increased abnormality along the same line, and may be an inferior degenerate, idiotic, epileptic or insane, or be a superior degenerate, as are many artists, poets and musicians.

A drunkard may bear children defective in many other ways than simply a tendency to dipsomania. They will often bear other stigmata of degeneracy. Or on the other hand, through the influence of a good mother the children may inherit those qualities which

make for good. The same conditions hold true in the hereditary tendency to tuberculosis, rheumatism, cancer and a long list of diseases.

The prepotency of either parent may give to the child a cell of low or high resisting power. Many life insurance companies will not accept a risk when both parents have been tuberculous, but will accept him if one parent only has been affected, and the applicant is over thirty-five and healthy.

Why is it that parents can bear one imbecile or one of tuberculous tendencies, or other defective organism in a large family of healthy children? It is because the accumulation of inherited tendencies is not equally bestowed by the parents upon the different members of the family. If they were all children in each family would be alike, for health or vital resistance against the detrimental forces in our environment which we call disease.

Let us consider for a moment why these tendencies are not equally bestowed. There are several reasons: but particularly the parents, either one or both undergo changes themselves for good or ill, for health or disease, for refinement or degeneracy. Have immorality and crime any relation to heredity? "As a man thinketh in his heart, so is he." Our real character is a reflection of our thoughts. No one can for long, keep from his face or unconscious actions the reflection of selfish, base and evil thoughts. God will bring every act into judgment and every secret thing, whether it be good or whether it be evil. What we are going to eventually be we are rapidly becoming through the action of our mind. No one can doubt the effect of emotions, either sudden or prolonged, upon cellular structure. We cannot conceive of part of the cells being affected without all, including reproductive cells.

Criminal statistics show that children born in the older years of criminal parents, have a stronger tendency to crime than the ones born in their younger years. In a large state reformatory report, among the boys who were classed as having absolutely no susceptibility to moral influences 86% were born of parents of criminal tendencies who were 35 years and over at the time of the boy's birth. This suggests that as the tendencies of mind, which lead to crime, become more fixed they are more readily transmitted. The offspring has inherited moral qualities which either tend him direct to crime, or provide him with less resistance to temptation.

So too with the offspring of parents who yield themselves to baseness, sensuality and venality. Many acquired diseases can be con-

veyed directly through the parental body to their offspring.

In most diseases the tendency alone exists, but some whose results on the physical economy are most disastrous can be conveyed direct. These are what we as medical men always have in mind when we speak of hereditary diseases.

What we need to realize more is that a parent with a definite disease or an indefinite, complex of nervous symptoms, or a system debased by degenerating moral life may give birth to a child with no direct reflection of the parent's condition, but just as surely marked with a devitalizing tendency. The rheumatic bears a choreic child, the sensualist an idiot, the hysteric brings out one of feeble resistance; all having a constitution of diseased weakened vitality to in turn convey its weakness to its own.

But now all the accumulated tendencies growing in our lives, with the current sweeping one tendency close to the surface or deeper down, with some latent and some apparent, what can be hoped for as a means to elevate mankind? What can be done to promote a body with a better vital resistance. It is mainly in the manner in which each individual responds to his environment. A recent author advocates as a remedy, "the surest, the simplest, the kindest, the most humane means for preventing reproduction among those we deem unworthy of this high privilege is a gentle, painless death, administered not as a punishment, but as an expression of enlightened pity for the victims and as a duty toward the community." This is impracticable, unwise and inhuman. All of us in the end strike a balance for good or evil. With most of us it is almost a balance. We cannot positively forecast the future of any individual. Notwithstanding statistics and almhouse reports, or prison and asylum records we cannot say where latent tendencies may spring forth from among evil that will work for good.

If through education and environment an individual is made to understand his responsibility and the necessity to meet and overcome the evil forces within or about him, or to elevate those forces that make for strength, he will do his little to correct the condition. Too much cannot be taught concerning the possibility of inherited tendency. Men and women should more fully understand that the physical, mental and moral condition of their grandchildren begins with them. Cupid, it is true, is blind, but if a portion of the open-eyed wisdom which stock men display in the production of horses, cattle and even dogs was applied to the selection of parents and to the conception and production of children so-

ciety would sooner find that "the sunbrowned world a man would breed."

"Blood will tell," but if good blood which has been accumulating the tendencies of enlightened physical, mental and moral perfection for generations is mixed with that with the stigmata of degeneracy, it is difficult to forecast which blood will tell.

Procreation is an individual act. Its result will depend upon the fight each individual makes against his tendencies and upon his own effort to provide a home and social and civil environment which will gradually make for the betterment of tendencies which have been and will continue to be transmitted to that vast army of posterity which will be climbing "up on the world's great altar stairs which slope through darkness up to God."

PUBLIC HEALTH.*

D. C. BROCKMAN, M. D.

OTTUMWA, IA.

THE chief source of revenue of the State is the products of labor. Anything that reduces the ability to labor is a menace to the welfare of the state, in that it reduces the income or earning capacity of the people. Ill health is the chief hindrance to labor, hence is the most serious menace to the material prosperity of the human race.

Each of the above propositions is axiomatic; so is the statement that public health is the most important subject from an economic standpoint, to be considered by the people.

The loss of time, labor or earning capacity by preventable diseases and death, is appalling to the student of economics.

By preventable diseases we mean the contagious and infectious diseases, as tuberculosis, typhoid, scarlet fever and other fevers, diphtheria, smallpox, cholera and all forms of epidemic diseases. These diseases are all preventable, and are the result of carelessness—yes, criminal carelessness on the part of some one.

If it were not for this group of diseases, the average human life would be greatly increased. These diseases are being prevented, and must continue in the future to a greater degree, be prevented by the medical profession, through the agency of sanitary science, and in this way public health conserved.

Through the influence of sanitary science the longevity of the human race has been

* Public address delivered before the second annual meeting of the physicians of the First Councillor District of Iowa at Fairfield, Ia., January 26, 1906.

increased in a little over a century, from 23 to about 45 years.

The terrible epidemics of plague—cholera, smallpox and typhus fever, that formerly carried off over two-fifths of the race, are now almost unknown in civilized lands. Diphtheria has been robbed of its terror, the "great white plague" is being besieged by thousands of zealous warriors, and must soon surrender.

Thus, one after another of the death dealing diseases are being rendered hors de combat, but there is much work to be done yet. As our able essayists have shown you tuberculosis must yet be overcome. Pure food must replace the sophisticated stuff we now consume, and a thousand other abuses must be corrected before we can lay down our arms and say the victory is won.

Heretofore our dangers have been mostly with foreign foes, but from this on we must look more to the enemy within the citadel. Not only the criminal venality that is to be seen everywhere—the spirit that disregard the right or even the lives of other, when by sacrificing them money can be made by the commercial pirates that infect every corner of our civilization, but we must as well ever watch the traitors who lose no opportunity to retard the work being done by sanitary science, as instanced by one judge in our enlightened state who really ruled that vaccination was not efficacious against smallpox, or when we remember that recently, a chief justice of North Carolina place upon record a discussion in which he regards the regular medical profession as a consciousnessless, self-seeking class of men, whose sole purpose in securing legislation that requires applicants for license to practice the healing art, to show themselves possessed of some knowledge of the fundamental principles of disease, anatomy, physiology, etc., was corrupt and venal, and breathed only the coarse spirit of commercialism and trades unionism.

The asininity of such so-called jurists can only be accounted for by assuming that they are either under the influence of some Memphis-Judas who promises to perform miraculous cures with "new remedies and methods not known to the regular medicine doctors," or else are suffering from a transient attack of that form of insanity that is ever trying to prove "that which is, is not," that material does not exist, etc.

Science has ever had to meet and refute these senseless, lopsided demagogues, and probably always will.

When we consider what has been done for humanity by sanitary science, that they themselves enjoy freedom from these epidemics through this agency alone, it seems

strange that with stupidity far greater than that exhibited by the meek, long-eared animal they imitate, that they still stand up and butt their head against such a wall of truth. Charity impells me to attribute their folly to ignorance, and that the only hopes for them, is through the enlightening influence of such public meetings as this, where they may become aware of the stupendous work that is being done by our noble profession to prevent and cure disease.

While there are score of subjects that need to be discussed before the people on such occasions as this, I feel that we cannot strike a better blow for public health, than to show the people some of the dangers of what a recent writer terms "The Great American Fraud," and the resulting vicious, dangerous habit of daily drugging that has taken possession of so many Americans; a habit that is causing more deaths, more mental and physical disease, public ill-health, than almost any disease you can name. In fact, if you will exclude tuberculosis and the social diseases, you cannot name any two, or even three diseases that cause as much evil as does this reckless, senseless, constant dosing.

Would that we had more editors as fearless, as courageous, with the good of humanity so much at heart, as have the editors of Collier's Weekly and the Ladies' Home Journal—the missionary work they are doing today in exposing the dangers and frauds in the manufacturing, the advertising and selling of these nostrums is far-reaching and doing immeasurable good.

The great trouble with the press today is, it is subsidized by the nostrum venders. The gigantic trust stipulate with the publishers, with whom they contract for advertisements, that nothing shall be said by their paper against patent medicine, that if they allow any such thing to be published, it will nullify their contract; and since the trust pays the American press about \$50,000,000 a year, we are not surprised that they are very silent about the injury done by these vicious compounds.

The American people pay annually over \$100,000,000 for so-called patent medicines, less than one-tenth of which is expended in their manufacture; about \$50,000,000 of which is paid for advertising, and the other \$40,000,000 is profits to the sharks that make and sell them, we realize something of the magnitude of the business. But the monetary side is the least dangerous aspect of the fraud.

The damage is shown by the thousands of permanently injured digestive and nervous systems due to the baneful influence of the stuff. The more than thousands of opium, co-

caine and other drug fiends, manufactured by this means as well as the rapidly increasing army of alcoholics made by this nefarious business.

If you people who are constantly taking these so-called patent medicines, only knew what you were taking, you would soon stop. If you could be made to realize that the most wonderful discovery of the age that you are taking, recommended by some deluded supreme judge, congressman, and other silly fools, is but a diluted alcohol, a cheap acid or a decoction of opium, cocaine or other habit forming drug, that the formula printed on the bottle would kill the sale of them in six months; I say, that if you could realize that this is the case, you would be less ready to take the stuff and give it to your children, or recommend it to your neighbors, as you have in the past. If you could be made to understand that the various stomach bitters, peruna, celery compound, and a score of others are only cheap dilutions of alcohol—not whiskey, as we so often hear charged—but diluted crude alcohol, that was never intended for internal use, you would be less ready to praise it as a wonderful cure all.

The government has taken the matter up in such a way that should open the eyes of the public, only the government does not tell us the names of the parties that are compelled to take out government license on account of their sales of these alcoholic drinks. For this is what they are, and it is for the alcohol you take them.

Would that I were able to portray the harm you are doing yourselves, your children and your neighbors in your persistent use of these impure liquors.

If you feel that you need whiskey, why don't you go to your druggist and get the best whiskey he keeps—this is bad enough, but not half so bad as the stuff you pay three or four times as much for in a bottle put up by some house that is simply a side line for some overstocked distillery.

One of the most dangerous types of patent medicines is the various acetanilid mixtures, sold under the name of headache tablets, powders and capsules.

Their name is legion—bromo-quinine, anti-kamnia, orangeine, and a hundred others, but the poison is the same; they are composed almost entirely of acetanilid—one of the alkaline dyes, made from coal tar, a most depressing medicine on any kind of a heart, and one that stops forever the action of thousands of weakened or slightly diseased hearts.

The majority of cases of sudden deaths that are attributed to heart failures, are due to the deadly headache mixtures.

Thousands of weak, nervous women go

about with a stock of these things in their shopping bags, so they will be handy—no wonder the papers are filled with "sudden death" reports.

In New York City the authorities claim more deaths result from these medicines than from diphtheria, scarlet fever and smallpox combined. A law should be passed, compelling every manufacturer of such stuff, to state on the box the exact amount of acetanilid in each tablet or capsule; also calling attention to the danger from and the precautions that should be observed while taking them.

So-called catarrh cures is another dangerous class of drugs, the base of the majority of them is cocaine, the newest and most dangerous of all the habit producing drugs, many fiends begin the use of the drug in this way by sniffing the solutions up the nose, when it is absorbed in the system.

These things never cured a case of catarrh, and never will, but they give temporary relief from the discomfort for a very short time, when the drug must be again used. Many useful lives are snuffed out through this agency.

Cough syrups, consumption cures, balsams, etc., are all loaded with opium or morphine, and kill an army of children every year. Every doctor will tell you the dangers of opium in lung troubles with your children.

Any number of other patent medicines that claim innumerable victims, could be named, but time does not permit. I cannot do you a greater service tonight, than in recommending you to subscribe for Collier's Weekly or the Ladies' Home Journal or both, wherein you may learn the deadly nature of many of these vicious compounds.

PAIN AND THE BLOOD.—Brunton asserts that increased sensibility to pain is sometimes due to lessened alkalinity of the blood, and may be remedied by the administration of alkalies.

DR. WM. LEE HOWARD.—Report has it that Dr. Wm. Lee Howard, of Baltimore, is removing to Boston, and will hereafter devote his attention exclusively to literature. Dr. Howard has been so eminently successful in both literature and medicine that his withdrawal from either must needs be a matter of great regret. In this case ours is the loss. We feel confident that he will continue definitely in touch with his medical interests, and that his work will continue to be for the physical and mental betterment of the world.

THE DISEASE, DIAGNOSIS AND TREATMENT OF THE RIGHT UPPER ABDOMINAL CAVITY.*

BENJAMIN MERRILL RICKETTS, M. D.

CINCINNATI, O.

JOURNALS and societies have been the most universal means of disseminating knowledge. Without them progress would indeed be slow.

The best medical and surgical thought have been utilized in perfecting the treatment of disease in the upper abdominal cavity.

Here is to be found the pancreas, liver, biliary tract, stomach, duodenum and jejunum, all of which have been attacked by the surgeon with equal success.

Pancreas.—Bruner, 1662, removed the pancreas from a dog without causing death.

DeGraaf, 1664, made a pancreatic fistula and collected secretion therefrom.

Mikulicz has shown that manipulation of the pancreas increases mortality.

Liver.—Clark, 1863, inserted a trocar into an hepatic abscess. This is the first recorded attempt of the kind.

Harley, 1882, said in no case would he recommend the scalpel or large trocar—only a very small trocar to evacuate an abscess.

McLeod had, however, incised an abscess of the liver, 1879, November 1.

Gall Tract.—Bobbs, 1867, was the first to remove gall-stones by operation, little knowing that he was laying the foundation to such a monumental structure. In consequence of having removed these concretions, he reasoned that it would be routine work.

Padget and Harley, 1879, had a patient who on March 15, 1877, passed biliary concretions through the abdominal wall by abscess.

Harley, 1882, says, "In my opinion, judging from my experience in operations on cholecystotomy, it is not one whit more dangerous than that of lithotomy and ought, if proper precautions are taken, to be infinitely less so."

Gastrostomy.—Was first done in 1602, but was not heard of again until late in the last century.

Incising the stomach has been done for many purposes. Had it not been for Alexis St. Martin, the physiology of the stomach would not have been so rapidly developed.

Removal of hair balls and foreign bodies has been done many times.

Division of pyloric and esophageal stricture (Abbe) and cauterizing ulcers of the stomach has been done several times.

Exploring the stomach through an incision is an established procedure.

Pylorotomy.—Resection of the stomach for disease as first done by Pean, 1879, who did it for ulcer. The case of Czerny was living at the end of ten years. Since then it has been done many times, but is now obsolete.

Weir says the mortality is 52 per cent.

Pylorotomy for cancer had a mortality of 50 per cent until Mayo began his work. Since then the mortality in his hands is but 5.8 per cent. This lessening of mortality is due to improved technique.

Pyloroplasty.—Done first by Heinke, March, 1886. A longitudinal incision is made in line of scar on pylorus. Mortality about 70 per cent. Now obsolete.

Divulsion (Loreta's operation).—Divulsion of the pylorus does not cure; only relieves for a short time. Now obsolete.

Gastrectomy.—First done by Conner, of Cincinnati, December 7, 1883. Woman with cancer of stomach; died on table as he was uniting the pylorus to the esophagus. To his Spartan courage is probably due much that has been accomplished in this kind of work.

Schlatter, 1897; Brigham, 1898; MacDonald, 1898; Richardson, 1898; and Bernays, 1898; each made a complete gastrectomy.

Partial gastrectomy had been done for prolapse. Several complete gastrectomies have been done, giving a mortality of 33½ per cent, but the operation cannot be advised owing to the high mortality and want of cure.

Mayo says that one-third of cancers of the body are in the stomach, and that all are operable at some stage of the disease.

Gastroplication (Birchner's operation).—Done by folding the wall of the stomach upon itself and securing by suture. The greater curvature of the stomach is brought half way to the lesser curvature.

Weir reports such an operation.

Gastro-Gastrotomy.—This is for hour-glass stomach, to unite the two stomach cavities. If necessary, also making a gastroenterostomy.

Gastrolysis is severing adhesions about the stomach; has been done for several years.

Ricketts had such a case in 1899, resulting from a pistol wound causing several bands.

Gastropexy about to be relegated for more scientific and rational methods.

A stomach hanging low probably has pyloric stenosis, and thereby becomes overweighted. It demands gastroenterostomy.

Gastroenterostomy.—First done by Wolf-ler, September 28, 1881, by uniting the stom-

* Abstract of an address read before the Davis County Medical Society, Washington, Indiana, December 14, 1905.

ach with the jejunum in case of carcinoma.

Dunin had however suggested such a procedure. Bilroth was second to do this operation; patient dying from constant emesis.

Courvasier, 1883, inserted a loop in the jejunum through a slip in the mesentery into the posterior wall.

Von Hecker, 1883, raised up the colon and the mesenteric jejunal loop to posterior wall.

Gastroenterostomy has undergone many evolutions, having been done first by suture, then Senn's decalcified plates, Murphy button, McGraw ligature and many other mechanical devices, only however, to again be done by suture.

The oblong Murphy button will probably supplant the round button. This Murphy fully advises owing to the rapidity with which it can be secured and perfect proximity of the parts. Then, too, it has not been retained in the stomach or gut.

My own experience has been limited to the use of the Murphy button and various kinds of suture.

The use of the oblong button will probably be given preference in cases of great debility, where rapid work is necessary.

Murphy says in a recent personal communication, that he has never seen the work of gastro-enterostomy done so rapidly and well by suture or otherwise as when done with the oblong button, while McGraw, in a personal communication received about the same time, advocates the rubber ligature.

Mayo reports 157 stomach operations with Murphy button. Benign, 72; 6 deaths (8%); 54 anterior; 4 deaths (8%); 4 reoperations (8%); 18 posterior, 2 deaths (11%); 4 reoperations (22½%). Malignant 85; 15 deaths (18%), including pylorotomy and partial gastrectomy.

Four deaths were due to pulling apart of attached surfaces in from six to ten days after button had passed into the bowel. This is now overcome by four or five mattress sutures.

In two cases it was necessary to remove the button at a subsequent operation.

Moynihan says that all such mechanical devices for intestinal anastomosis have served their purpose, and that they now are of but historical interest.

McGraw Ligature (Ochsner).—He has made 156 gastroenterostomies by this method. Of 124 at Augustina Hospital, 28 were cancer, 5 died (17%); 96 ulcer, 5 died (5%).

The disadvantages of this method are that it is slow to cut through, sometimes does not do so because of breaking and in secure knotting and does not make opening at once for drainage.

Haberkant cites 58 gastro-enterostomies for cancer; 12 lived longer than one year.

Mayo gives conditions indicating gastroenterostomy, gastric-pyloric duodenal and jejunal ulcer; pyloric stricture due to cicatrices or neoplasms, malignant or benign, gastric dilatation due to any cause, without pyloric stricture and peripyloric adhesions causing contractions of the pylorus.

Niles says 5 per cent of all persons have gastric ulcer, that the average age is 38 years; that the greatest number is between 38 and 48 years, and that sex is about equal.

Autopsy findings in chronic ulcer have been instituted in hospitals giving per cents of gastric ulcer varying from 1.32 per cent to 20 per cent. The higher per cent being in deaths of more recent date and by more skilled observers.

It is fair to conclude that ulcer of the stomach is more common than generally supposed and that many of the so-called cases of gastritis, indigestion, etc., are cases of gastric ulcers. Such cases are common in every community and they are being recognized more and more every day.

Five years' work leads Mayo to believe that ulcer of the stomach precedes cancer in about 50 per cent of the cases, and that cases of carcinoma with long histories speak for preceding ulcer with short histories, against ulcers as a precursor.

In 52 cases of cancer during the first half of 1905, by him, 26 were cancer upon ulcer.

Distance of anastomosis from pylorus varies. Von Hecker—20 to 25 cm. from duodeno-jejunal flexure. Keppler—40 to 60 cm. from flexure. Mikulicz—three or four inches from flexure, and Peterson, as near the flexure as possible, same as Czerney's no-loop method.

The latter is now the selection of choice done on posterior surface of stomach by suture. Make the opening proportionate with the size of the stomach and at the most pendant portion. The mortality being less than five per cent.

In two cases recently operated upon by me, a posterior anastomosis was made with suture from three to four inches from the duodeno-jejunal junction.

In one case, 60 years old, that had been confined to his room for ninety days, the weight increased twenty-two pounds within sixty days after the operation.

Perforating Gastric and Duodenal Ulcers.—Moynihan made his first operation April 30, 1897. Since then he has made 22 operations, 8 deaths (36%); 7 duodenal had perforated and 15 in which a gastric ulcer had perforated.

In the first ten cases there were six deaths; in the last twelve there were two deaths. Of the gastric ulcers two were males and twelve were females. Of the seven duodenal, four were males and three females (one not accounted for).

Mikulicz, 1903, is in favor of both gastro-enterostomy for drainage and jejunostomy for feeding for six or ten weeks, then latter is allowed to close.

Hemorrhage may be from an ulcer, fissure or varicosity, and death may result from the smallest lesion.

Pathology.—Gastric ulcer is of two kinds, indurated and non-indurated. In the first, all coats are involved and can be felt from without. Non-indurated, only mucosa is involved and cannot be felt from without. Either may be acute or chronic.

The acute is more rapid, involving the entire wall, with sharp edges. The chronic ulcer is slower, broader, more irregular in shape, and terraced or funnel shaped.

Either may perforate a blood vessel or the entire thickness of the stomach wall.

The two forms may heal spontaneously, but the chronic form is associated with more cicatricial tissue and consequent deformity.

Of 231 ulcers reported by Mayo, 80 were peptic, 56 females and 24 males.

The symptoms and differential diagnosis of the following diseases are given in detail: Gallstones, gastralgia, gastric ulcer, perforation of gastro-intestinal ulcers, perforating duodenal ulcer, distended gall-bladder, bilious or acute gastric-duodenal catarrh, movable kidney, floating kidney with twisted ureter, nephritic colic, pyo-nephrosis, tumors of kidney, ureteritis, obstruction and atonic dilatation of the stomach, appendicitis, acute indigestion, intestinal colic, acute enteritis, intestinal obstruction, typhoid fever and acute pancreatitis and carcinoma stomach.

INSANITY FROM HYSTEROTOMY AND OOPHORECTOMY.—G. M. Hammond, New York (Jour. A.M.A., March 10), while admitting the greater frequency of insanity after operations on the pelvic organs, attributes this to certain psychologic causes, readily understood, acting on an originally defective brain, rather than to any especial relation existing between the integrity of the sexual organs and the brain. The removal of these organs alone never causes insanity; the cases that occur are due to hereditary tendency, the psychologic and physical effects and to surgical shock, but most of all to the originally defective brain.

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EDITORIAL

THE development of the cystoscope has unveiled much which has been hitherto hidden and marks that instrument as easily the most important addition to our equipment of recent years. Its value along diagnostic lines and as

a means to direct treatment to parts otherwise unaccessible needs no comment. Another use which appeals to both the surgeon and the internist is the definite placing of normal anatomic relations and the detection of irregularities and anomalies. Through the courtesy of Dr. Bransford Lewis it has recently been our privilege to see a case to the point. Cystoscopic examination revealed the existence of three ureteral orifices, one on the right and two on the left; catheterization from these brought three distinct and different urines. The urine from the right kidney was normal. From the left ureters: from one the urine was turbid, specific gravity 1005, and contained pus which contained gonococci; the sample from the other left ureter was clear, specific gravity 1010 and free from pus. A skiagraph was made of this patient with catheters, in the lumen of which a lead wire had been placed in the ureters. The picture showed the right ureter to follow its normal course. The two on the left enter the bladder at points on the same level and the course above was parallel for three or four inches, the inner ureter continuing in the normal position of the left kidney. The outer crossed inward and continued upward to a point midway between the left kidney and the median line and somewhat lower.

Treatment was given through the catheter to the affected pelvis and ureter with telling efficacy, as was demonstrated to us a few days later.

An Interesting Anatomic Anomaly.

Whether this patient is the possessor of three kidneys or has a left embryonal kidney is the question to be determined. Dr. Lewis is of the opinion that there are three kidneys, and the difference in position of the two pelves makes this the natural conclusion. Embryonal kidney might give the distinctly different urines through distinct pelves and ureters, but unless the kidney was greatly distorted and tremendously enlarged it would be impossible for the pelves to be so far separated, and so placed in relation to each other.

It will be our privilege to give Dr. Lewis' findings later and in detail. The case is of such interest that it and all which are found of its class should be recorded for the information of the profession.

DR. THOMAS A. CLAYTOR states (Med. Record) that it has been proved experimentally that the digestive and absorptive powers during typhoid fever fall off only five to ten per cent, so that impaired digestion is not sufficient argument in favor

A More Liberal Diet in Typhoid Fever.

of the exclusive milk diet. The present trend of thought is toward the belief that the majority of diseases being due to specific poisons, recovery depends upon either the exhaustion of that poison, or the development of an antibody of some sort which renders it innocuous. In order that he may withstand the ravages of the disease until the time of recovery, it is necessary to keep the patient in the best possible condition. The writer emphasizes the following points in the selection of a diet for typhoid fever patients: It must be sufficiently nutritious to maintain as far as possible the bodily equilibrium. The writer's treatment of a case of typhoid fever, no matter what day of the disease it may come under his care, is as follows: The regulation six ounce of milk are given every two hours, night and day, while the patient is awake. In place of milk, in order to vary the monotony for those who can not, animal broths are given. After the subsidence of the more acute symptoms, the patient is asked if he is hungry, and if he replies in the affirmative a soft-boiled or poached egg is allowed, and if well borne the number is gradually increased to three or more a day. Jelly or blancmange, custard, soft toast, the soft part of baked apple, and rice which has been boiled four hours, are the next additions. After this, scraped beef or chop, very finely divided chicken, and baked potato

are tried. The writer does not advocate so full a diet in every case, for each patient must be carefully studied as an individual. He believes that most of the foods mentioned are quite as digestible, far more palatable, and rather less likely to cause perforation or hemorrhage by their local action, or gas production, than milk. The writer appends a table of twenty-six cases. These patients all recovered. He adds that the advocates of the more liberal diet claim that the patient is more comfortable, the attack is slightly shortened, convalescence is more prompt, and relapse, hemorrhage, and perforation are not more frequent.

AFTER reviewing the history of the use of alcohol as an antidote to carbolic acid poisoning, T. W. Clarke and E. D. Brown, Cleveland, Ohio (Jour. A. M. A., March 17), report the results of a clinical and experimental study of the subject. Thirteen

Alcohol in Carbolic Acid Poisoning.

cases of carbolic acid poisoning treated at the Lakeside Hospital, Cleveland, by lavage with diluted alcohol are reported, and comparison is made with other cases treated there and elsewhere without alcohol. The very slight difference in the mortality in the two series of cases and the greater apparent constitutional disturbance observed when the acid was taken with alcohol than when taken clear or with water, raised grave doubts in their minds as to the antidotal power of alcohol, which, together with the statements of recent textbooks on toxicology, led them to undertake some experimental work to better satisfy themselves as to the true facts of the case. The experiments were performed so as to test the systemic antagonism of alcohol and phenol (by intravenous injection): To test the antagonism in the stomach (5 per cent phenol): To test the efficiency of lavage (undiluted phenol). The experiments were performed on anesthetized dogs and rabbits, and a further series of tests of the local antagonism of carbolic acid and alcohol and other phenol solvents, was made by Prof. T. Sollmann and included in the paper. The tests in this case were made by direct application of the acid to the fingers of various individuals followed by the antidote. The general conclusions from all the experiments are given as follows: "1. Alcohol has a local antidotal effect to carbolic acid burns, due to its solvent action. 2. There is no evidence of chemical antagonism between alcohol and phenol. 3. There is no effect produced by alcohol on carbolic acid poison-

ing after the latter has been absorbed into the system, as is shown by the intravenous experiments on dogs. 4. Alcohol and phenol placed in the stomach give no different results from phenol alone. 5. Lavage with alcohol is effective when the phenol is in the stomach, but its superiority over lavage with water is not pronounced." From the clinical aspect alcohol seems to have a local antagonism to carbolic acid, and they would not say that it is of absolutely no value in poisoning by this drug. Its solvent action may nevertheless be, under certain conditions, a danger rather than an advantage, as shown by the more marked symptoms of intoxication seen when the poison has been taken in whiskey, and this seems to contraindicate the alcohol being used as an antidote and left in the stomach. The procedure recommended is as follows: Immediate abundant lavage, with 10 per cent alcohol, this to be followed by lavage with plain water, and stimulation as indicated. To be effective alcohol must be used while the acid is in the stomach; it is of no use after it has been absorbed. The danger of pneumonia from inhalation of the regurgitated stomach contents during lavage in an unconscious subject is pointed out, and the authors advise during lavage turning the patient on the side or face, with the head low so that anything entering the pharynx will flow out through the mouth. Since using this plan they have had but few pulmonary complications in their patients.

DR. NICHOLAS SENN, of Chicago, will deliver an address at the International Medical Congress, to be held in Lisbon, April 19 to 26. His subject will be "The International Investigation of Carcinoma."

THE ST. LOUIS MEDICAL SOCIETY has elected the following delegates to the State Medical Association: Drs. P. Y. Tupper, J. C. Morfit, W. W. Graves, W. H. Stauffer, Jesse Myer, Malvern Clopton, C. A. Snodgrass, F. L. Henderson, H. W. Soper and John Green, Jr.

NEW ORLEANS AGAIN IN THE LIME LIGHT.—Press reports have it that there are a number of cases of yellow fever in New Orleans, and there is a consequent feeling of a comprehension throughout the country. It would seem that even such a suspicion should be stamped out, but in case of the establishment of the suspicion as a fact so aggressive a campaign should be inaugurated against this disease as will insure safety in the South during the coming summer and for all the future.

REPORTS ON PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

INTERNAL MEDICINE.

O. E. LADEMANN, M. D.

Clubbed-Fingers of the Left Hand in Aneurism of the Arch of the Aorta.—Groedel's (Meunchner Med. Wochenschrift, No. 6, 1906) descriptive report is interesting, and tends to elucidate the origin of dumbbell-fingers. The case in question was a man, 47 years old, presenting the following physical diagnostic features: Dilation of both right and left heart with evidence of cardiac incompetency; a dilatory pulsating tumor situated in the upper left half of the thorax; a diastolic murmur with its maximum intensity in the first and second left intercostal spaces; a decided diminution in the pulse volume in the arteries of the left arm, including the subclavian artery, whereas the volume in the carotids showed no perceptible difference. The arterial tension in the right arm was 85 mm. of mercury (Gartner's tonometer) and 40 mm. in the left, while the venous pressure registered 12 right (Frey) and 25 left. This arterial and venous incongruity of the left arm, according to Groedel, is best reasoned by an aneurism of the arch of the aorta effecting a constriction at the orifice of the subclavian artery, while the carotid opening remains intact, and the aneurism secondarily pressing on the subclavian vein interferes with the return circulation. The terminal phalangeal thickening of the left, hand not only consisted in an increase of the soft structures, but as the radiogram showed, in the bones also. The frequent occurrence of clubbed-fingers, particularly in respiratory and cardiac disease, has led to considerable controversy regarding their origin. The author's case uniquely illustrates the role of two factors, namely, mechanical and toxic. The increased venous pressure resulting from the obstruction affords a stagnation of the toxic products of metabolism. In this instance Groedel also considers the diminished arterial blood supply an element of importance in lowering the resistance of the tissues favoring the action of the accumulated toxic substances.

A Comparative Study of Human and Animal Tuberculosis.—Korsel (Zeitschrift für Tuberkulose, Bd. VIII, Heft 1 and 2, 1906) formulates the following deductions from his work on the subject: 1. From a bacteriologic study of tuberculous lesions in man, cattle and hogs there are two varieties of tu-

bercle bacilli designated as human and bovine type. 2. The spread of tuberculosis among cattle results exclusively from infection with the bovine type. 3. Hogs are highly susceptible to the bovine variety, in less measure to the human type. 4. Human tuberculosis is primarily a disease of the human variety, the infection being directly conveyed from man to man. 5. Tuberculous lesions in human subjects may also originate from an infection of the bovine type. 6. The transmission of the bovine variety to man is by food taken into the alimentary tract, particularly of animals with tuberculosis of their udders. 7. The role played in the dissemination of the disease through the bovine type is subordinate and of comparatively little danger to that of the consumptive individual.

Significance of Small Quantities of Sugar and of Albumin in the Urine.—Burnet (*British Medical Jour.*, Jan. 20, 1906) holds that the presence of albumin in the urine in any appreciable quantity cannot be regarded as either normal or physiologic, although it does not necessarily imply any gross pathologic alteration, nor does it signify that the disturbance in function is of a permanent or progressive character. On the other hand, however, it is an indisputable fact that a certain number of patients originally belonging to this category later on do show evidence of definite organic renal disease. It may likewise be said the presence of sugar in any appreciable amount is an abnormal constituent; in the young, particularly, it is to be regarded with apprehension, and if persistent, is likely to terminate in diabetes, while its occurrence in individuals past middle life, especially those of a gouty tendency, it is of less import and as a rule, is more or less readily amenable to treatment, but in some cases it is likely to reappear under conditions similar to those which occasioned its first appearance. The presence of both albumin and sugar in the urine is indicative of a serious disturbance in the process of metabolism. Burnet thinks that by relieving the nervous strain which the patient may have been undergoing and improving as far as possible his state of environment he may continue in at least fair average health for many years.

Arteriosclerosis as a Disease.—Stengel (*American Medicine*, Feb. 10, 1906) says in the consideration of arteriosclerosis as a general disease three stages may be recognized: 1. A preliminary one, difficult of recognition in its beginnings and confusing to the clinician in his efforts to distinguish what part of the etiologic factors have contributed to the

symptoms-complex, and what part has resulted from the arterial disease itself. 2. A middle period, during which the arterial disease is easy to recognize, but in which secondary organism changes have a role of variable importance. 3. A final stage of failure of circulation, organic failure, and terminal infections. The diagnosis of arteriosclerosis is usually established during the second period, and then rarely offers serious difficulty. Only when undue attention is given to some local disturbance, such as albuminuria, palpitation or vertigo, or when the vascular disease is so uniformly distributed that it manifests itself only in a general failure of vitality, is the recognition of the disease likely to occasion confusion. In the final stages, too, though the form of local disease and the immediate occasion of the patient's failing health or taking off may be too much emphasized in the physician's mind, the contributory influence of the hardened blood-vessels rarely escapes attention. Among the varieties of early arteriosclerosis, the author has observed several more or less distinct types, nutritional, neurasthenic and nervous. The nutritional type are those group of cases presenting obscure disturbance of general health with a tendency to digestive disorders and anemia or pseudo-anemia. There may be a slight loss of weight at first, but in rapidly developing cases emaciation may proceed rather steadily. The pseudo-anemia, as a rule, is a condition of the more advanced stages, but sometimes makes its appearance rather early, and is largely the result of contraction of the vascular channels with resulting pallor than deterioration of the blood. The neurasthenic type are those cases presenting various evidences of neurasthenia with or without definite nutritional disorders. It is difficult to distinguish between the neurasthenic symptoms that may attend developing arteriosclerosis and such secondary arteriosclerosis as may engraft itself upon a pre-existing neurasthenia from other, except that circulatory symptoms are perhaps more common. The nervous type include those varieties of arteriosclerosis in which certain nervous symptoms are conspicuous. When the hardening of vessels is considerably advanced various central nervous symptoms, as temporary paresis, spasmodic or convulsive disorders or disturbances of consciousness may be met with. In the earlier stages minor symptoms as vertigo, tinnitus and syncopal attacks may manifest themselves. Peripheral symptoms of the type of claudication are met with in a variety of forms. Migraine and neuralgic troubles also figure among the forms of nervous symptoms in the early stage. In the more advanced stages arteriosclerosis is easily

recognized by the discovery of palpable thickening of the blood-vessels, by the increased vascular tension, by the auscultatory phenomena at the heart, and by the general appearance of the patient. The disease presents itself in a variety of types, according to the special involvement of one or another of the important viscera, or by special vascular conditions, and are classified by the writer under the following headings: 1. The thoracic type, of which may be distinguished (a) cardiac, as moderate disturbances of the heart's action with a tendency to arrhythmia or special involvement of the coronary arteries (angina pectoris); (b) aortic, not merely referring to aneurism of the arch of the aorta, but also to sclerotic and calcareous roughening without any dilation of the aorta, but causing embarrassment of the heart's action. 2. Abdominal type, of which there are (a) renal, evidencing itself, as the clinical picture of interstitial nephritis; (b) intestinal, less commonly recognized, and manifesting itself by atrophy of mucous membrane and a tendency to chronic colitis, ulcerations in the upper part of the small intestine, and sudden painful obstructions (paresis of the walls) of the bowel; (c) pancreatic, difficult of recognition, however, often active in diabetes; (d) hepatic, occurring as cirrhosis. 3. Cerebrospinal type, most numerous and varied and probably a number of definite nervous diseases of cerebral causation have as their underlying basis arteriosclerosis of the cerebral vessels. 4. Arterio-capillary type, manifested in moderate circulatory disturbances.

Perforation in Typhoid.—Meakins (Montreal Med. Jour., Oct., 1905) bases his article on a study of 32 cases of perforation occurring among 1230 cases of typhoid treated at the Royal Victoria Hospital, Montreal. Twenty of this number were operated, 5 recovering. In the remaining 12 operation was deferred because the patient was either in a moribund state, or a conclusive diagnosis of perforation had not been made. Of the symptoms, sudden and severe pain in the abdomen was most constant, being present in 84 per cent of the cases. In one case this symptom alone prompted surgical interference. Disappearance of hepatic dullness in the absence of meteorism proved a valuable diagnostic feature. The pain in most cases was diffuse. Abdominal rigidity was present in 24 cases, but as a rule, did not evidence itself until late. The temperature and pulse afforded but little diagnostic clue, the former not falling below normal until some time after the onset, and the latter not exceeding 100 beats per minute till several hours had elapsed. Respiration in most of

the cases remained normal for some hours. The characteristic facial expression (facies hippocratica) was usually a late manifestation. Percussion, palpation and the counting of leucocytes furnished unreliable data. Rectal examinations are of some value, the pressure exerted by the examining finger sometimes caused pain at the site of the perforation. The author believes one is always justified in resorting to a laparotomy whenever pain, tenderness and muscular rigidity coexist, as in doubtful cases it is better to operate once too often than not enough.

Notes on the Cerebrospinal Fluid.—Pashagan (Med. Rec., Feb. 10, 1906) made a cytologic analysis of the cerebrospinal fluid in patients suffering from paresis and other mental affections with the view of determining the constancy of the lymphocytes. Among 37 cases of general paresis there was a marked increase of the lymphocytes noted in 16 cases, a moderate increase in 5 cases, doubtful in 3 cases, and negative in 3 cases. In 7 chronic alcoholics, 6 old leutics, 25 epileptics, 13 hebephrenics, 8 katatonics, 7 maniac-depressive cases and 7 paranoiacs the lymphocytes were diminished.

Grave's Disease and Its Treatment.—Murray's (British Med. Jour., Nov. 11, 1905) paper embraces an elaborate discussion of the symptomatology and therapy of exophthalmic goitre. Concerning the treatment, rest in bed and fresh air in conjunction with a "mast kur" is absolutely essential in the severe forms, especially the acute cases, while rest, fresh air and nutritious diet are also important factors in the later stages of the disease. Murray strongly recommends mild faradization applied twice daily for a period of one hour each time. The electrodes, to be made of a pliable material, are to be respectively placed on the goitre and back of the neck. In some cases radiotherapy acted beneficially. Among drugs, the author regards arsenic as one of the few remedies which has proven efficient. For the tachycardia, arsenic in combination with convallaria is of greater benefit than either digitalis or strophanthus. Potassium bromide may be given to alleviate the nervous symptoms. Thyroid extract and the iodides are positively harmful. Sodium phosphate, recommended by many, has proven to be of no value in the author's hands. The different sera (Möbius and others) have been applied in several cases, but without any apparent beneficial results. Rodagon on the other hand (desiccated thyroidectomized goat's milk) gave promising results. Caution, however, is necessary in the administration of rodagon, as large doses may so reduce

the pulse as to cause cardiac cessation. A serum obtained from rabbits and goats, which had been given large amounts of thyroid extract, was tried in two cases of exophthalmic goitre without any result. Operative measures are dangerous, and if resorted to should be only under local anesthesia, as the danger apparently seems to lie in the narcosis.

Trichinosis and Eosinophilia in General.—Stäuble's (*Deutsche Archiv für klinische Medizin*, Bd. 85, Heft 3 and 4, 1906) illustrated contribution emphasizes the value of making hematologic examinations in trichinosis. In the 7 cases observed by him the eosinophiles were markedly increased, and in 4 of these, which were of a severe type, there was also a considerable general hyperleucocytosis. The increase of eosinophiles was not at the expense of the neutrophiles, as the latter were increased during the entire course of the disease. The lymphocytes, although in the beginning somewhat diminished, likewise showed an actual increase. In the severe forms of trichinosis, especially those terminating fatally, the eosinophiles may again disappear, or an eosinophilia may be entirely lacking. Eosinophilia does not evince itself until about the eighth or tenth day after the ingestion of the trichiniferous meat. The incentive of the eosinophilia is not the absorption of some toxic substance contained in the trichina capsule which might be liberated in the gastrointestinal tract, but seems dependent on the liberation of the embryos or their invasion of muscles. The dissemination of the embryo is by means of the blood channel, as is evidenced by the fact that their presence is demonstrable in the circulatory blood of the heart. A local accumulation of eosinophiles at the point of muscle substance disintegration could not be discernable. The eosinophiles may, therefore, be looked upon as a reactive manifestation of substances emanating from the embryonal trichina (probably also from the degenerated muscle-substance) and passing into the circulation. Stäuble's animal experimentation also corroborates the clinical observation that a rapid lymphocytic reduction (Lymphozytensturz) in infectious diseases is significant of a bad prognostic omen. A rare concomitant symptom occurring in the four extreme cases and which may prove to be of diagnostic value, was a positive Kernig phenomena with a total absence of the patellar. The urine of all cases gave a strong positive Ehrlich reaction.

Prognosis in Typhoid Fever.—Simon (*British Med. Jour.*, Nov. 1, 1905) bases his remarks on a clinical study of a large number of cases treated at the Birmingham General

Hospital. About the fourth week of the disease a polyuria sets in. The twenty-four hour amount of urine increases from 30 oz. to as high as 100 oz. This polyuria is to be regarded as indicative of a favorable termination, and when it once makes its appearance the danger of perforation or hemorrhage is insignificant and a relapse is quite a rare event.

Heart-Massage in Chloroform Syncope.—Smith and Dazhich (*British Med. Jour.*, Nov. 18, 1905) report an interesting case of a man who had been put under a chloroform anesthesia for the purpose of making a rectal examination with the view of determining any malignant growth. While under the influence of the anesthetic the heart and respiration suddenly ceased. The ordinary respirators, as artificial respiration and the subcutaneous injection of strychnine, had no effect when an abdominal incision was made and the heart gently massaged through the relaxed diaphragm. About sixty seconds later the heart began to beat again and the patient made an uneventful recovery.

The Effect of Posture on Cardiac and Vascular Murmurs.—Rudolf (*American Medicine*, March 3, 1906) emphasizes the influence of different postures on the various bruits which occur in the circulation, a matter of which some writers make only a scanty allusion, while others do not mention it at all. The murmurs most markedly influenced by change in posture are the functional ones, but organic bruits by no means always escape. In studying the effect of position on murmurs one must avoid possible sources of error. The effects of muscular action made by the patient in assuming a different position can be obviated by allowing him to remain in the new posture for a short time before auscultating. Under vascular murmurs are the arterial bruits and the venous hum, the former, often heard in anemia, neurasthenia, etc., are most pronounced in the recumbent position, while the latter is best heard in the sitting or standing posture. The murmur is loudest generally at the root of the neck on the right side and is exaggerated by the patient turning his head to the left. Cardiac murmurs, whether functional or organic, are those produced within the heart itself, and the general statement may be made that all ventriculo-systolic bruits, if affected at all by posture (and most of them are), are loudest and most extensively audible when the patient is in the recumbent posture. On the other hand, all murmurs occurring during the ventricular diastole (if affected at all by position) are loudest in the upright posture. Rudolf discusses the theor-

ies advanced by many writers regarding the influence of position in intensifying and decreasing the audibility of murmurs, but throws no additional light on the subject, stating that the theory of exactly why posture alters many circulatory murmurs is of little practical importance, while the remembrance of the fact that it does do so is of the greatest clinical value. He urges the necessity of auscultating in both the erect and horizontal positions whenever an examination of the heart is made, and in giving a description of a heart murmur it should always be stated in what position the patient was when the murmur was of the nature described.

Heart Massage in Death following Asphyxiation, Poisoning and Chloroform Syncope.—Müller (Wiener klinische Rundschau, Nos. 50-52, 1905) anesthetized dogs until death ensued and fifteen to twenty minutes later exposed the heart and gently massaged the organ, at the same time injecting salt solution and small quantities of oxygen in the veins, whereupon the animal gradually returned to life. The author hopes this method of resuscitation may eventually be successfully applied to man, especially in those cases with a previously healthy heart.

Remarks on the Infection of Ankylostoma Duodenale Through the Skin.—Loss' (Zeitschrift f. klinische Medizin, Bd. 58, Hft 1 and 2, 1906) article embraces an exhaustive resumé of his preceding research work, and is confirmatory of the work he has done in the past on the subject of ankylostomiasis. Matured ankylostoma larva, suspended in a drop of water, when placed on the human skin soon causes a reaction which is evidenced by redness and a sense of burning, disappearing from three to eight days without leaving the slightest trace of disturbance behind. The microscopic examination shows that the active larva enter the skin chiefly through the hair follicles lodging themselves in the subcutaneous connective tissue, from whence they wander into the intestinal tract. The manner in which intestinal invasion takes place can be readily determined in the young dog, being more susceptible to cutaneous infection than older dogs. The larva in animals thus infected are demonstrable in the veins of the skin, the veins approaching the axillary and inguinal regions, the vena azygos, in the right atrium, in the pulmonary alveoli, the smaller and larger bronchi, the trachea and larynx, and finally in the esophagus. The larva are also capable of entering the lymphatic glands through the lymph channels, where a part of them are destroyed and the remainder rendered less active. The larva excite diarrhea long before their entrance in

the intestines, which is probably the result of metabolic disturbances. In the intestines the larva receive their nourishment from the mucous membrane, which they devour. Hemorrhages resulting from vascular erosion are coincidental and secondary occurrences. The former view of a per os infection of the ankylostoma larva is unquestionably subordinate to a cutaneous invasion. Introduction into the alimentary tract by means of drinking water, is necessarily a seldom occurrence as the larva rapidly sink to the bottom, and the idea of contaminated hands conveying the larva to the mouth is certainly very infrequent, as the larva rapidly die under dry conditions. On the other hand, cutaneous invasion rapidly occurs in bare foot individuals working in ditches etc., containing water polluted with ankylostoma larva. The larva, owing to their active motility, constantly strive to leave their original place of habitation (feces, etc.) and wander elsewhere, providing the surrounding atmospheric conditions (sufficient moisture) are favorable. The higher the temperature, until a certain limit is reached, the more active is the motion of the larva, and in this stage of activity they are capable of climbing walls and embankments, providing there is sufficient moisture. Six per cent of the laborers working in a ditch where the temperature registered 25 deg. C. were infected. Cultural maturation of the ankylostoma larva occurs in a temperature as low as 15 deg. to 18 deg. C. The essential prophylactic measure is to prevent any contamination of the ditch or ground with fecal matter, all other measures, as cleansing the hands before eating, bathing, etc., are of secondary consequence. Disinfection of infected ditches with chemical disinfectants is not a suitable measure, better results are obtained by disinfecting with steam or flushing with water at a temperature of 70 deg. to 80 deg. C. Finally, systematic inspection of the workmen is good practice.

The Detection of Diacetic Acid in the Urine by Means of Iodine.—Bondi and Schwarz (Wiener klinische Wochenschrift, No. 2, 1906) propose the following test for diacetic acid in the urine in preference to most of the ordinary reactions, which they claim are not absolutely characteristic: Lugol's solution is added to 500 cc. of urine, in drop measure, until it changes to an orange color, which it retains on slight heating. On boiling the characteristic pungent odor of iodoacetone manifests itself. It is to be remarked that a positive reaction only occurs with a neutral or slightly acid urine.

DERMATOLOGY.

ROBERT H. DAVIS, M. D.

Observations on the Use of the X-Ray in the Treatment of Certain Diseases of the Skin.

—Wise (Med. Rec., Jan. 20, 1906) gives an elaborate article on the results obtained with the X-ray in the treatment of various dermatoses at the New York Skin and Cancer Hospital. His conclusions are: (1) The X-ray will cure ring-worm and favus of the hairy skin more rapidly and reliably than any other method of treatment; the advantages of the method are that it is painless, harmless when properly used, and thorough. (2) Hypertrichosis should be treated with electrolysis, not with the X-ray. (3) The X-ray gives very satisfactory results in the various forms of cutaneous tuberculosis; in keloid, in keratoses, in infiltrated patches of chronic eczema, lichen planus, pityriasis rubra; in the tubercles, ulcers and tumor masses of mycosis fungoides, in psoriasis, and in idiopathic, multiple, hemorrhagic sarcoma. (4) X-ray relieves pruritus, burning, tingling, and often pain; it decreases the discharge and foul odors of various dermatoses, often causing them to disappear completely. (5) In selected cases, radiotherapy is the ideal agent in the treatment of epithelioma and rodent ulcer. Of course, in a certain percentage of cases of epitheliomata of the skin, there was no benefit whatever from X-radiation, while not a few became more extensive and intractable, but this was not true of the great majority of cases treated. The recent, superficial, non-extensive growths yield most easily, but it was found best to exercise radically all cases suitable for such action, and in which consent to operation could be obtained. The X-ray can then be used to prevent recurrence in the scar. The cases of lichen planus referred to were of the hypertrophic form. In cases of keratosis palmaris et plantaris, the X-ray was applied to the palm, and sole of one side, and strong salicylic acid plasters to the palm and sole of the other. Radiotherapy showed much the better results; the treatment causing no inconvenience, the effect was more lasting, and the necessity of having the hand covered with plasters and bandages was eliminated. (The editor saw and treated one of these cases, and can fully concur in the advantage of the X-ray therapy.) In the treatment of keloid, it was sometimes necessary to push the exposures up to the point of ulceration. When the ulcer healed, and the scab dropped off, a large portion of the tumor was found to have disappeared. This was for small keloids on the chest and arms. In the large keloids of the face, neck, and chest, the X-ray caused a decided softening and dimin-

ution in the size of the tumor masses. The author does not state whether the raying in these cases was pushed to the point of ulceration or not, but presumably not. In the extensive, diffuse, keloidal conditions following burns the results were unsuccessful. In tinea barbae, the so-called non-parasitic sycosis, and the "ingrowing hairs" frequently seen on the neck of young men who use the razor, the results were satisfactory in the extreme. He gives excellent advice with respect to the caution with which the X-ray should always be used. Suitable protective measures should, of course, be taken, and the effect of each treatment carefully noted before repeating it, as the burns resulting are (except apparently in leprosy. See abstract in this issue.—Ed.) peculiar obstinate in healing.

Leprosy in the Philippines, with an Account of Its Treatment with the X-Ray.—Wilkinson

(Jour. A.M.A., Feb. 3, 1906) gives some exceedingly interesting data and conclusions based on the large number of cases he has seen, and the thorough test to which the X-ray has been put in treating them. He is inclined to believe that the disease is rarely, if ever, transmitted from parent to offspring, and is with difficulty transferred from one person to another, but there frequently exists a common source of infection to which the members of the same family may be subjected, especially during early childhood. Of numerous children under his care born in the Philippines of leprosy parents (seven in the hospital of which he had charge, three having both parents leprosy), none have been known to suffer leprosy. Of five cases in which a parent and child both had the disease, the development occurred towards the end of the child's adolescence, appearing at about the same time in both parent and child, the child developing the disease first in three cases, and the parent first in two cases, thus indicating common origin and not transmission from a parent to child. He classifies the types as hypertrophic, atrophic and mixed, instead of tubercular or nodular, and anesthetic or neurotic, as is commonly done. The hypertrophic forms develop most rapidly, and are usually diagnosed earlier. They ulcerate freely and promptly. The atrophic forms develop more slowly, rarely, if ever, ulcerate, and exhibit the greatest variety of deformities. The bacilli are found with difficulty in the skin scrapings from these, but are present in great numbers in scrapings taken from the hypertrophic lesions. In the atrophic forms, the bacilli are often found at post mortem, in the nerves, leading to the affected parts. In the treatment, the part

of the body which presented the greatest amount of leprotic deposit was selected for the first series of rayings, and it was exposed to the rays at from seven to ten inches distance, and for ten minutes at a time. The distance and time of exposure were varied somewhat from time to time, and the effort was made to approach as near to the point of burning the skin as possible without actually doing so. In only two cases were the patients actually burned, and it is worthy of remark that these were the first two patients cured. If superficial burns occurred, treatment was suspended until tissue repair began. The burns showed little tendency to progress, and healed readily leaving little or no scar. The author submits the following explanation of the action of the ray; that, when a local lesion of leprosy is treated with the X-ray, the organisms there localized are killed, and their bodies absorbed by the system, thereby producing an immunity against the living organisms. This is practically analogous with the immunization of individuals against bubonic plague by injecting into them killed cultures of plague organisms. In the case of leprosy, he claims that we grow the culture of *lepra bacilli* in the human body as a culture medium, and then kill them by means of X-rays. In support of this theory, the following reasons are advanced: 1. The treatment of one leprosy spot on a patient produces improvement in spots at a distance from the one actually treated. 2. The cure, in the distant spots, seems to progress parallel to, and to be just as complete as in the one treated. 3. The best results seem to be obtained only when treatment is pushed to the point of killing, or beginning to kill, the tissues, which would also probably be to the point of killing the organisms. 4. Cases in which there are massive, localized, leprosy deposits are most rapidly improved, as, in these cases, we have an abundant culture on which to operate, and thereby produce immunity more rapidly. 5. In diffuse, general involvement of slight degree, or atrophic character, where there are only a few scattered organisms, little success was had. 6. In two well advanced cases in which the amount of new leprotic tissue was excessively great, the improvement was marked and rapid, but followed by loss of general health, and rapid, physical decline. This may be an over dosage so to speak. (The frequency of the rayings is unusual to one used to the technique in America, but, of course, this was to bring about the "killing" effect desired. The exposures were frequently made every day, at the start, for some days, and then every other day.—Ed).

OPHTHALMOLOGY.

WALDEMAR FISCHER, M. D.

So-called Gummata of the Ciliary Body.—(N. J. Weil, *Annals of Ophthalmology*, Jan., 1906.)—One case, a man 25 years of age, presented a swelling fully one-half cm. in all its diameters in the upper posterior, temporal region of the left eye, the sclera did not appear much thinner in the region of the tumor. Rigid antisyphilitic treatment gave a satisfactory result. The second case, a man 28 years of age, presented a swelling in the upper posterior ciliary region, also of the left eye in which the sclera had become so thin that it was nearly wanting in two places. In this case enucleation had been advised, by heroic doses of potassium iodide, mercurial inunctions, sweats and hot baths the patient retained an eye with a normal contour and tension.

Clinical and Anatomical Examinations About the Influence of Radium on the Trachomatous Conjunctiva.—(Birsch-Hirschfeld, Leipzig, *Klin. Monatsbl. f. Augenheilkunde*, Dec., 1905.)—The inference of the radium could be clearly seen in all the cases so treated. The follicles became flattened and sank to the niveau of the surrounding conjunctiva. These changes in the follicles could be seen as early as seven hours after any exposure, but in some instances they became noticeable after one or two days had elapsed. The question, does radium act on the trachomatous conjunctiva? is answered in the affirmative in as far as the follicles disappear without increased inflammatory manifestations or scar formation. The question, can trachoma be cured by exposures to radium? is answered in the negative. Cohn's, Darier's and Selenowsky's enthusiastic reports are to be taken cum grano salis when compared to those of da Gama Pinto, Uhthoff and the essayist's. The retrograde metamorphosis in the follicles can be demonstrated anatomically much earlier than clinically. The changes produced are very similar to those described by Hienke in Peyer's patches, the spleen and lymphatic nodes of the animals he experimented on. The changes produced by radium on the follicles are unfortunately only transitory; and as a therapeutic agent it is greatly eclipsed by the methods of treatment in vogue. In ending the author concludes: 1. In ten cases of trachoma exposed to radium three to twenty minutes a distinct flattening and disappearance of the follicles was observed. 2. The improvement lasted for several weeks in only one case, in the other nine new follicles formed after a few days to a few weeks. 3. In the cases treated by

radium the result was so unsatisfactory that the older methods employed in this disease were used to obtain a cure, even after the sufferers had been treated for months by exposures to radium. 4. The effect produced on the follicles are the same as those observed by Heinke on normal lymph nodes, the result being only temporary. 5. Only those cases of trachoma should be considered as cured by exposures to radium that present no new development of follicles for months after they have been exposed to radium. 6. Radium should never be used in the immediate vicinity of the eyeball unless the necessary precautions have been taken to protect it, as anatomical changes are produced in the retina and optic nerve of animals so exposed.

The Examination of the Eye in Pregnancy.—(Polte, *Klin. Monatsbl. f. Augenheilk.*, Dec., 1905.)—The ocular complications in pregnancy are well known, but are comparatively infrequent and do not occur in the great numbers given by some investigators. For instance Bosse who examined 124 women during pregnancy and 300 after delivery, 75% of the pregnant women had a neuritic appearance of the optic discs without subjective symptoms in the last month of pregnancy, which rapidly disappeared after delivery. According to Bosse only one-eighth of the 300 women examined the day after delivery had a normal fundus, on the second day one-fourth, on the eleventh two-thirds, and on the fifteenth day all anomalies in the fundus had vanished. The essayist examined 200 cases before delivery and 177 cases afterward; of the 200 pregnant women 178 were healthy; the urine of eighteen contained albumen, among these there were six with eclampsia, one had morbus macularius, three pyelitis; 116 of the 178 pregnant women examined in the last month of pregnancy had a normal fundus. One of the six cases of eclampsia showed a hyperemia of the upper discs, which became pale the day following the premature birth. Two out of the eight cases of albuminuria had a retinitis albuminurica. The visual acuity, light sense, color sense and visual fields in the healthy pregnant women were normal. In concluding the relative infrequency of ocular complications is emphasized in contradistinction to Bosse's.

Congenital Fistula of the Lacrymal Sac.—(Prof. A. Elsching, Vienna, *Klin Monatsbl. f. Augenheilk.* Jan., 1906.)—So far there are about twenty cases of this interesting anomaly on record. The essayist had the opportunity to observe three cases, one of which he examined histologically. These fistulae were regarded as superfluous and misplaced

canaliculi. But the cases of Vossius and Elsching prove them to be caused by an interference in development, as the extirpated fistulous tracts were built by stratified epithelium resembling that of the skin; in Elsching's case there were hair and sebaceous glands present, the abundance of elastic fibers found about the lacrymal sac and the goblet cells were absent, a clear proof that the fistula was not formed from the strand of cells which formed the sac, and later the canaliculi. In most cases the lacrymal duct is patent. Cases have been known to heal spontaneously.

Observations on Dionin.—(Chas. M. Steele, *Annals of Ophthalmology*, Jan., 1906.)—The field for the application of this remedy is limited. The fact that it has fallen into disrepute with some authorities is that they have employed it in conditions where other drugs are more effective. There are two conditions, however, in the treatment of which dionin surpasses any other remedy: First, in the various degrees of corneal opacities resulting from recent keratitis; and secondly, in the essayist's opinion in subconjunctival hemorrhages or hemorrhage into the anterior chamber.

Chromatic Aberration in Ametropia.—Pollack, Paris, Lucerne Congress, investigated artists using as tests the pigments which they employ in their work. A slight ametropia has a decided influence on the perception of colors. Control experiments were made with de Wecker's color scale. Red becomes deeper when seen through a weak convex glass, yellow more orange, and green assumes a yellowish tint. Blue becomes deeper with a weak concave lens, green more bluish and yellow took a slight greenish tint. The phenomenon is explained by the eye being able to accommodate exactly for one at a time of the artificial pigments of which the colors are made. Whence artists with a weak myopia might work to advantage with their myopia uncorrected. While a slight over-correction of the hypermetropic artist might be beneficial, as the so-called warm colors are important for artists.

LARYNGOLOGY AND RHINOLOGY.

HERMAN STOLTE, M. D.

Postoperative Hemorrhage Following the Removal of the Pharyngeal Tonsil.—Homer Dupuy (*The Laryngoscope*, 1906, No. 1) collected in an extensive research into the literature covering a period of thirty-five years, 38 cases of alarming hemorrhage following adenectomy with eleven fatalities. Causes were:

1. Hemophilia, contributing the greatest number of fatal cases. 2. Constitutional diseases, such as leukemia, lymphadenoma, struma, exophthalmic goitre. As local causes Dupuy mentions abnormal arterial distribution, which make the field more or less unsafe to the clumsy or inexperienced operator. Thus the malposition of the left internal carotid produced a fatal issue, and the superficial seat of the ascending pharyngeal artery coursing along the junction of the posterior and lateral nasal wall of pharynx caused a lesion and very alarming bleeding. Regarding the importance of age and sex, the second decade is the more dangerous period, due to the prevalence of more vascular and fibrous tissue in the adenoids, the latter preventing the severed vessels from contracting. The male sex is more afflicted by severe hemorrhage than the female, due to the fact that hemophilia prevails in the male (from 8 hemophiles with 44 fatalities 7 were male). The hemophilic tendency being transmitted through the female to the male member of the family. The fact that more fatal or severe hemorrhage occurred without the administration of an anesthetic, is explained by the greater liability of instrumental injury by the increased gagging and unintentional movements of the suffering patient. In the vast majority of cases the hemorrhages occurred within the first twenty-four hours; several fatal hemorrhages occurred on the fourth day, one on the eighth day after operation. Regarding the question of checking the profuse postoperative bleeding, local applications of astringent solutions are of no value. But in constant or intermitting oozing of blood along the posterior pharyngeal wall or through the nose the local application of adrenalin, or better dioxygen, will seldom fail to check the bleeding. Where there is a brisk flow of blood, spurting in character, postnasal plugging, quickly performed, is the only benefiting measure, but this fails in about 60% in hemophilia. To minimize the risk of postoperative hemorrhages we have to insist upon enforced rest in bed for twenty-four hours by giving cold drinks or chipped ice during the next few days. The author concludes as the death may occur after adenectomy by hemorrhage that the deep appreciation of our large responsibility forbids any but the specially trained surgeon to attempt its performance. Further, that it is our first duty before operation to elicit all facts relating to possible existence of hemorrhagic diathesis; further that the throat specialist has to be forearmed and ever on the alert to cope with a problem of the gravest import and alarming postoperative bleeding. This is best done by being continually

equipped with hemostatics and various mechanical appliances. In cases of hemophilic history where the operation has to be done, internal administration of daily 15 grains of calcium chloride for three days previous to the operation is prone to reduce the hemorrhage during operation and afterwards remarkably.

Should Tonsillar Tissue be Removed in all Cases? Why?—George W. Spohn (The Laryngoscope, No. 1, 1906) considers the function of the tonsils to stand as a guard in the oral cavity, to prevent the entrance of micro-organisms into circulation, and to arrest and destroy toxins, hence tonsillar tissue should not be sacrificed to the knife unless absolutely necessary. The pathological condition of the tonsils (hypertrophic, crypts filled with foul, germ laden cheesy material) is due to irritation by food, repeated acute inflammations, autointoxication by constipation. Such tonsillar toxins should be removed (1) when its pathologic condition cannot be cured with treatment (iodine painting); (2) when it obstructs the nares and oral cavity, or interferes with their physiological functions. Diseased tonsils, instead of standing as a guard to arrest and destroy micro-organism, they supply a soil for their propagation and encourage their entrance into the system (acute joint rheumatism), thus failing in their proper functions, also lowering the vitality to the general system. Therefore removal of diseased tonsillar tissue, that needs removal, should be done early and not postponed. The mode of operation is not amputation or decapitation, but enucleation of all diseased tissue. Tonsillotomy is such a common operation in the eyes of the general practitioner that it does not have the dignified standing it deserves. If done correctly, not amputated or decapitated, but enucleated it is not an easy operation, and requires a special training and skill. In case of thorough enucleation of all the lymphoid tissue, except the fibrous portion of the gland the result will be very satisfying and lasting.

DEPARTMENT OF LEGAL MEDICINE.

R. B. H. GRADWOHL, M. D.

A Contribution to the Subject of Stigmata of Degeneration.—Dohr and A Scheele (Vierteljahrsschrift fuer ger. Medizin, Jan., 1906, Bd. XXX, Heft 1.)—This investigation was undertaken for the purpose of estimating of just what value the so-called "stigmata of degeneration" are in calling attention to crime in those exhibiting these stigmata. There has been much said pro and con,

since Lombroso first called attention of the world to these signs. Lombroso called particular attention to anomalies of the skull and mouth as stigmata and worthy signs of criminality. Ganthér and Wilga also spoke of the existence of stigmata in insane as well as in criminal persons. In investigations in the past upon this line much has been said and done, and yet withal, but little of consequence because the manner and method of gathering statistics has been faulty. The importance of the signs of gathering of degeneration can only be ascertained by comparing the measurements and descriptions of so many criminals with so many "normal" individuals. For this purpose habitual criminals must be selected on the one hand to illustrate the abnormal, and "honorable" people must be selected on the other to illustrate the normal. The particular point to determine was whether or not certain so-called stigmata of the mouth were more frequent in the criminal than in the honest person? For the sake of comparison, the writers selected German soldiers to represent the normal type, first because the measurements could be most easily be taken from this class, secondly because the German soldier represents an "elite class"—much more so than either the very lowest classes of German citizenship or the higher classes, being recruited from all classes. Of course the fact that a class of this kind might and does harbor some with criminal instincts must be taken into consideration in a small way in surveying the sum of these experimental observations. Again, racial characteristics are homogeneous among the soldiers, less so among the criminals examined, where foreigners were met with in some instances. The material for criminal class was selected as follows: Penitentiary at Wleiden, 253 persons, age 16 to 30 years; penitentiary at Fulda (Cassel) 121 persons, age over 30 years; penitentiary at Ziegenhain 282 persons, age over 20 years; penitentiary at Ziegenhain 67 women, age over 20 years; reformatory at Wabern 120, age up to 19 years; house of refuge at Cassel, 168 children, age up to 14 years. This makes 1011 people examined, 101 being illegitimate, and 219 or 26% being the first-born. Six hundred soldiers (under-officers and privates) were examined for comparison, 20% being first-born. The particular stigmata sought for about the head and face were the caput quadratum, prominent temporal regions, receding forehead, asymmetry of the face, fissured uvula, pointed tongue, broad tongue, tremor of tongue, deviation of tongue to right or left, deviation of nose to right or left, persistence of ear muscles, satyr-ear,

variations in the lobe of ear. These variations in the lobe were divided into three kinds. Schwalbe described eight kinds, but unfortunately the present work was finished before Schwalbe's report appeared (*Zur Methodik statistischer Untersuchungen über die Ohrformen von Geisteskranken und Verbrechern*, Arch. f. Psych. u. Nervnheknk., 1895, Bd. 27 and so the eight classified types could not be observed. Anomalies of the jaws, teeth and gums sought for were prognathism, changes in the "normal bite" of the teeth, etc. The Caucasian races have their teeth so arranged that the normal "bite" occurs when the upper teeth slightly overlap the lower. Among certain races, the old Egyptians, the Celts and Esquimaux, the incisors fit down exactly upon each other. Other points used to denote stigmata by Lombroso and Manouvrier are strong developments of the lower jaw, i. e., an increase in the volume of the lower jaw. Lack of development or even absence of a chin is also pointed out by Naecke as a stigmata of degeneration, also irregularity in the articulation or the teeth, "open bite" (*mordex apertus* Carabelli), diastema, variations in shape of the upper incisors; variations in the number of teeth, particularly less teeth than normal; abnormal development of the wisdom teeth; "short" teeth; erosions are said to be abnormalities found in degenerate criminals and insane. A number of tables are given by these writers, showing exactly how often these so-called stigmata occurred among these habitual criminals and how often they occurred among the soldiers who were taken to be normal. The abnormalities were found just about as often and in just about the same degree among the normal subjects (soldiers) as among the criminals examined. The caput quadratum was alone found to be present in 1% of the criminals and not at all among the normal persons examined. Asymmetry of the face was found but once among the criminal class. It has been noted to be three times as common among Italians as among Germans. Fissured uvula was found in 0.3% of criminals and in 0.3% of the normal class. Pointed tongue was found in 1.16% of criminals and in 1.0% among normal class. Deviation of tongue to right was found in 6.6% of normal and 6.8% of criminal class. Erect ears were found more commonly among the normal class than among the criminals. Satyr-ears were found in 0.83% of the normal class and 0.7% of the criminal. The anomalies of the teeth, mouth and gums were found to exist in just about the same proportions among the normal class as among the criminal. The general run of the observations seem to indicate that

the so-called stigmata of degeneration do not bear that importance to the existence of criminal instincts in their possessors as Lombroso and others would have us think. The observations were exhaustive enough to make one exceedingly skeptical as to whether or not there are really any stigmata of degeneration at all.

SOCIETY PROCEEDINGS

MEDICAL SOCIETY OF THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.

Stated meeting held February 5, 1906. The President, Dr. J. J. MacPhee, in the chair.

FRACTURE OF THE ULNA DURING MASSAGE FOLLOWING OPERATION FOR COLLE'S FRACTURE.

Dr. F. C. Keller showed this patient. After the removal of the splint her arm being massaged when the ulna snapped at a point several inches above the original site of fracture. This occurred six or eight weeks after the operation, and could be attributed only to some inherent disease of the bone.

Dr. J. C. Robertson said that he had put up from 200 to 300 cases of Colle's fractures during the past eight years, and until two years ago had applied a posterior splint, the arm being semiflexed in a stiff position. This gave far from perfect results in eight out of ten cases. A careful study of these cases had convinced him that the best results were obtained by applying a posterior splint from the hand to the elbow, keeping the arm perfectly straight, and putting a pad of cotton under the wrist. As a result there is no sharp protrusion of the ulna at the elbow, as often occurs when the hand is put up anteflexed.

Dr. J. A. Bodine said that something was wrong with the composition of the bones of this patient, as ulnas do not snap from massage. The bones were probably chalky. As to Dr. Robertson's experience with Colle's fractures, he thought that each surgeon favored the line of treatment with which he, personally, had obtained the best results. He thought a posterior splint more practical, for the reason that the posterior surface of the arm is a straight surface, and has no cutaneous nerves and no return blood supply. If a rigid anterior splint is applied to the front of the arm, edema is caused by obstruction of the circulation.

INTUSSUSCEPTION.

Dr. Alexander Lyle reported a case of intussusception occurring in a child $7\frac{1}{2}$ months

old. The patient, well-nourished, healthy, active and breast-fed, had enjoyed perfect health, with the exception of constipation, until the evening of December 18, 1905, when he was suddenly seized with severe abdominal pain, as evidenced by crying and flexion of the thighs upon the abdomen. He was given a hot mustard foot-bath, and, internally, hot water with gin and paregoric. His bowels had moved normally on the preceding day, but not on the day of the attack. At 1 a. m. the child passed about half an ounce of bloody mucus but no fecal matter. Pain was severe and recurrent in character, and at 6 a. m. on the nineteenth a physician was summoned. He ordered half an ounce of castor oil. This failed to produce an evacuation of the bowels. On the evening of the 19th he ordered an enema (rectal) of glycerine and hot water. During the night the mother noticed a sudden change in the child's condition and thought it to be dying. She could not reach the physician, and in the morning the speaker was summoned. On reaching the house he found that the physician had arrived and had given an enema of an ounce of castor oil and one pint of warm water, the water returning with bloody mucus. Hasty examination showed a state of collapse, a weak pulse that could not be counted, a tense, rigid abdomen, and a rectal temperature of 103 deg. F. Diagnosis of intussusception was made and immediate operation advised as offering the only hope (and that a poor one).

The child was immediately brought to the Polyclinic Hospital and operated upon. No tumor could be mapped out, even after he had been anesthetized. An incision was made in the right rectus muscle, just below the umbilicus, the abdominal contents examined and intussusception located in the ileocecal region. A firm, dense band of adhesion anchored this portion of the intestine, necessitating a considerable amount of work before it could be brought into the wound. This was finally accomplished and the intussusception reduced. The gut was not gangrenous, and therefore was returned to the abdominal cavity. A loop of small intestine was picked up and two drams of saturated solution of magnesium sulphate was thrown into it by means of a syringe, the needle of which was carried obliquely into the lumen, the object being to evacuate the bowels as soon as possible. The abdominal wound was then closed. Following the operation the child's temperature rose to 103.5 deg. F., and remained so until 1 a. m. of the next day, when it dropped gradually to 95. deg. F., and did not rise above 100.8 deg. F. at any time afterward. The

pulse could not be counted until the temperature had fallen to 101.8 deg. F., when it was 160, late falling to 118 or 120. The bowels moved five times during the first twenty-four hours after the operation.

The speaker emphasized the point that valuable time must not be lost by useless, or more properly speaking, positively injurious and dangerous medication. The sudden abdominal pain, followed by a discharge of bloody mucus from the rectum, the recurrent attacks of pain and absence of fecal evacuations indicate immediate operation. Gangrene or extensive adhesions, or both, are produced by delay, and an intestinal resection and circular enterorrhaphy will be necessary. An early operation, on the contrary, enables the surgeon to early effect reduction.

Dr. Bodine said that one point should be emphasized in the diagnosis of an inflammatory abdominal condition in a child, and that is the expression of the face, which is always typical. Another aid is the abdominal pain. He thought it would have been impossible to have made a differential diagnosis between this condition and appendicitis if it had not been for the presence of the bloody mucus.

Dr. Maurice Packard said that in cases of abdominal lesions in children up to three years of age, the differential diagnosis between intussusception and strangulated hernia usually has to be made. The only point in diagnosis especially pointing to intussusception is the bloody mucus. A body temperature of 103 deg F. and a rapid pulse are also significant, as the statement is made in many text-books that, except in appendicitis and general peritonitis, the temperature and pulse are normal and the abdomen relaxed. It has been his experience that in intussusception children always have a high temperature and have a pulse so rapid that it is almost impossible to count it. In cases of intestinal obstruction the absence of stools and gas assists one in making a differential diagnosis, as in intussusception only mucus and blood pass from the bowels.

LARGE OVARIAN CYST.

This specimen was presented by Dr. C. G. Child, Jr. He had removed it from a patient 38 years of age. She had complained of pain during the previous four or five years, during which time she noticed the presence of a tumor, which grew progressively larger. Examination revealed an enlargement reaching to the umbilicus. It was impossible to palpate the appendages on either side, and it was also impossible to determine on which side the tumor originated. On account of the pain being on the right side it was concluded

that the tumor was of the right ovary, but at the time of operation it was found to involve the ovary on the left side and to have rotated the uterus. It firmly compressed the appendages on the right side, which accounted for the pain on that side. A transverse incision showed the cyst to be inherent in all directions to the omentum and posterior peritoneum. A portion of it was free from adhesions, and at this point the fluid contents were aspirated. The sac was then pulled out, with the intestines and omentum, and the adhesions separated. The sac contained a dark, water-like fluid, which is rather unusual, the contents of such a tumor usually being of a yellow straw color.

The paper of the evening was by Dr. J. C. Taylor, and was entitled

ACUTE PELVIC INFECTIONS.

He said, in part: It is but a few years since a woman's tubes and ovaries were sacrificed by an operator lest a future laparotomy should be required. Actuated by a sense of thoroughness, he deprived women of the function of menstruation, which is interwoven with their mental as well as physical life. It is better to conserve these organs, even if elaborate and hazardous procedures must be adopted to accomplish this end as well as to cure the patient. He did not advocate, however, the carrying of conservatism in connection with special organs so far as to endanger the constitutional condition of women. There is a broader conservatism, which seeks to restore the general health of the patient, even if special organs must be sacrificed to attain such an end. To this end he made an appeal for early surgical interference in the acute diseases of the female organs. Conservative operations sometimes may fail; but even if they do, radical procedures must be adopted later without added risk, to the patient. On the other hand, it is impossible to restore organs removed by radical work.

For many years it has been customary in most large hospitals to treat patients suffering from extension of gonorrheal inflammation to the tubes by hot antiseptic douches, or perhaps by tampons and an ice-bag externally over the lower abdominal region. When the acuteness of the attack had somewhat subsided the tubes as well as the ovaries were frequently swollen and engorged to such an extent as to be designated as tumors and removal was advised; whereas, without apparent mutilation, the inflammation might have been checked in the beginning and the woman allowed to keep her organs, though somewhat damaged. The conservative work to be attempted is mainly that

of evacuating the free pus in the cul-de-sac when the operator is convinced by the bulging of the wall of the posterior fornix that purulent exudate is present in abundance. The gonococci, in an active stage, after they have gained entrance into the uterine cavity, cause a destruction of the superficial cells, work their way into the deeper layers, and are the cause of an immense amount of purulent exudate, destruction and infiltration of the outer layers and edema of the deeper structures. Unfortunately, after gonorrhea has once become well established within the uterus, it invades by continuity of tissue the Fallopian tubes. The inner surface of the uterus may become such an active seat of inflammation in its deeper layers that the walls of the smaller vessels become involved, as do the surrounding lymphatics and the normal structure is almost entirely destroyed. The walls of the uterine cavity thus become suppurating surfaces, which later become sclerotic, and this is followed by a shrinking of the organ. This is frequently the case in mixed infections.

If the tubes are opened and drained during the onset of the disease, the woman may retain her organs, though somewhat damaged. The operation is very simple, but it necessitates a thorough knowledge of female pelvic anatomy and careful manipulation of special instruments. An incision is made on the posterior surface of the cervix at the juncture of the vaginal mucous membrane with the cervical, care being taken to keep close to the cervix. A pair of blunt pointed scissors, curved on the flat, seems best adapted for this purpose. When the incision is made in the curve of the fornix, a painful scar is apt to result, the nearer the rectum is approached the greater being the sensory nerve supply. After incising the mucous membrane and retracting the divided edges, a small amount of loose alveolar tissue is encountered (most marked in women after the menopause). After incising this the peritoneum is easily divided or punctured. With the forefingers the opening can be enlarged. The uterosacral ligaments being pushed outward by the palmar surfaces of the fingers and the intestines carried out of the way by means of the Trendelenberg position and held there by pads, the tubes are easily brought into view by means of the proper instruments for retraction. If this procedure is adopted in the very early stages, as it should be, the tube will be found reddened, swollen, and with a tendency to sink into the cul-de-sac. It should be grasped with a pair of blunt forceps, such as those of the modified Hunter type, on the dorsal surface, and pulled into the opening. It should be remembered that

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the tube, like the ovary, except at its uterine extremity, is fed by small ascending branches from the ovarian artery, which enter the structure from the lower surface; consequently, when an incision is made it should be on the opposite side. Care should be taken to keep the intestines out of the way by means of pads, the tubes being incised along the outer two-thirds of the upper border. The contents should then be evacuated and the entire surface thoroughly swabbed with 5% iodoform gauze. At first there will be considerable oozing of blood, which gradually subsides, no main vessel having been cut. A small strip of iodoform gauze should then be placed over the raw surface, an end protruding into the vagina. The first effect of this treatment is to reduce the interstitial cellular infiltration, as it is a well-known fact that gonococcus does not thrive well on exposed surfaces, its natural abode being in the deep recesses of compound racemose glands. The gauze may be removed from the cul-de-sac in from five to six days. This may be done with safety after such a period, as the life of the gonococcus at best is very short, except in racemose glands and closed sacs.

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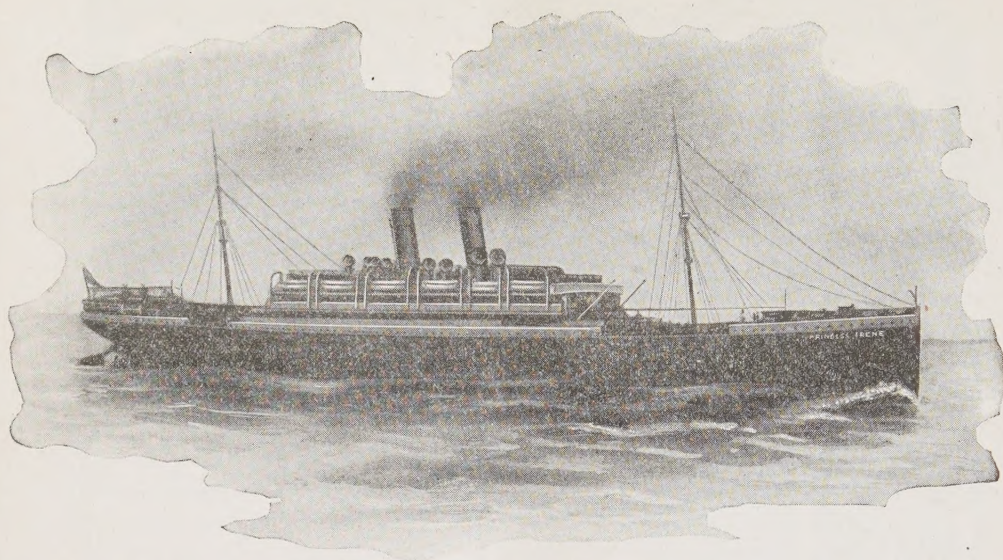
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DR. CHAS. WOOD FASSETT, St. Joseph, Mo.

MEDICAL MEMORANDA.

For Sale.—First-class surgical chair and fine improved nebulizer. Both will be sold cheap if taken at once. Address "Removed," care Medical Fortnightly, St. Louis, Mo.

Authorities and our experience teaches that the most important step toward the amelioration of chronic nasal catarrh is cleanliness. A generous use of an alkaline antiseptic with spray, sufficiently stimulating to encourage the formation of new blood vessels and invigorating those that have remained. Germiletum has proven in my hands the ideal solvent and alkaline antiseptic and will effectually cure the most advanced cases of chronic nasal catarrh.—A. W. Latimer, M.D., formerly physician to the St. Louis City Hospital.

My oldest son was troubled with a skin eruption on his chin and forehead (between the eyes) which he seemed to have caught at school, it resembled a ringworm in some particulars, but was very stubborn, and hard to cure: so I sent to you for samples, believing, through past experience with resinol, that it would do the work. After the first application I could see the improvement, and inside of a week his face was clear again. It is one of the greatest remedies I know of for those nasty, inflamed, raw looking, and rapidly growing sores so often seen on school children's faces, and will cure them every time. I have prescribed it extensively in my practice for some years past, and always with success.—John Husson, M. D., 418 W. 124th street, New York City.

Syrup Trifolium Compound with Cascara—An Effective Combination of an Alterative with a Laxative.—The superiority of syrup trifolium compound with cascara must be apparent when its composition is noted. Each fluidounce contains the active constituents of red clover blossoms, 32 grains; lappa, 16 grains; berberis aquifolium, 16 grains; xanthoxylum, 4 grains; stillingia, 16 grains; phytolacca root, 16 grains; cascara amarga, 16 grains; potassium iodide, 8 grains, and cascara sagrada, 40 grains. The dose is from one to two teaspoonfuls, three times a day. While it is particularly indicated in the treatment of secondary syphilis, with or without mercury, syrup trifolium compound with cascara commends itself as a general alterative. In skin diseases it evidently stimulates the action of the emunctories, adjusts the balance of waste and repair, and produces marked improvement. Many eruptive diseases are aggravated by constipation, induced by sedentary habits, and in such cases syrup trifolium compound with cascara P. D. & Co. may be regarded almost as a specific. While regulating the bowels and restoring natural peristalsis, it continues to exercise its alterative effect, which is enhanced by the elimination of waste products. In psoriasis and eczema it may be found effective when other measures produce indifferent results. In strumous cases its favorable effect may be supplemented by combinations of iodide of arsenic, bichloride of mercury, sulphide of calcium, or iron. As it is easily borne by the stomach and pleasant to the taste, it may be taken by children for a long time without giving rise to derangement of the stomach or producing nausea. It also proves useful as a vehicle for calcium iodide in the acne of adolescents; iodide of mercury in specific ulceration of the fauces; and for the administration of large doses of iodide of potassium in tertiary syphilis. In anemia, chlorosis, amenorrhea, etc., the most favorable results are produced by alternating it with some iron preparation.

A New Preparation for the treatment of septic and inflammatory conditions should hold great interest for physician and surgeon, particularly when the article has been subjected to tests and trials which have demonstrated its efficacy with such positively beneficial results as to make certain that it is entitled to a prominent place in the category of drugs which the physician considers absolutely necessary in the treatment of diseases which are most frequently met with in practice. Extravagant statements concerning the action of a remedy do not establish confidence in its influence. Nevertheless, the seemingly marvelous results following the use of this new preparation have led all physicians who have tried it to express in the most positive and enthusiastic manner, their astonishment at the benefit obtained by its use. This remedy is a combination of echinacea, thuja occidentalis and baptisia. It is placed upon the market under the name of eusoma. Dr. Finley Ellingwood, of Chicago, Therapeutic Gazette, May 15, 1905, says of echinacea: "Its field covers the entire range of organic infection. Blood poisoning in all its forms is met more promptly with this remedy than with any single remedy or combination of remedies. In septicemia the promptness of its action has surprised every physician who has prescribed it. If it had no other influence than that of antagonizing direct septic infection, this would be sufficient to class it as of first importance among specific remedies for this purpose." While Dr. A. B. Matthews, of Elberton, Ga., in a paper presented to the Medical Association of Georgia, April, 1904, says; "Echinacea does play a part in its influence upon the character of the blood as to be well worthy of the title, 'a corrector of dyscrasia.'" Eusoma, therefore, is a preparation which should be of use in the daily work of every physician. Full information and sample may be obtained by writing the manufacturers, The Eusoma Pharmaceutical Co., Cincinnati, O.

For diarrhea due to exhaustion after fevers, Dr. Waring recommends nux vomica with opium and iron.

For rachitic diarrhea, Dr. Hare recommends the administration of sodium phosphate, lime salts and common salt freely.

Heroline is a compound of petroleum with hypophosphites of lime and soda and heroin hydrochlorate, recommended in chronic bronchitis.

The Special Strain of pregnancy is never long well borne by the overburdened liver and kidneys. To maintain normal activity in these organs is therefore of great importance. Allouez bi-magnesia water stimulates activity and aids materially in carrying off the intensely toxic bodies secreted from the digestive disturbances peculiar to gestation. The soft light, alkaline diuretic has the advantage of continuous use without any liability of reaction.

Chronic and Recurrent Coughs and Their Treatment.—Abstract of article by J. E. Alter, M. D., —. In treating coughs we quite often encounter obstinate cases, which, no matter what combative measures may be instituted, will continue without abatement. Such cases are best classified as the chronic cough and the recurrent winter cough. Both of these classes are extremely obstinate in their course and yield reluctantly to treatment. They are usually of long duration, and, while not, in themselves directly dangerous, may become so by inducing emphysema and bronchiectasis. In the great majority of chronic and recurrent winter coughs, the basic trouble lies in a low form of inflammation of the bronchial mucous membrane; especially that of the bronchioles. In many cases I have used codeia, but lately I have been having much more success with another derivative of opium, i. e., heroin. In comparing the results obtained from the use of these two drugs, I notice that heroin will not constipate the patient, nor will it have the stupefying effect characteristic of codeine. Another advantage possessed by heroin is that it is effective in young children in very small doses. I had been accustomed to prescribe heroin alone, but about a year ago my attention was called to a preparation of that drug—glyco-heroin (Smith). Upon giving it a good trial I found that it gave me better results than obtained when heroin alone was given, and much more quickly. Glyco-heroin (Smith) has one distinct advantage over plain heroin in that it can be given for a long time without ill effects, and in this class of patients in question this is indeed a most important feature. During the past year and a half I have treated a number of cases and recurrent winter coughs with glyco-heroin (Smith) and have obtained uniformly good results.

Example.—A. L.; salesman; aged 28. I saw this patient early in the spring of 1903. He is robust and of good habits. He consulted me concerning a constant cough which had troubled him for over a year. It was usually worse in the morning and after meals, and accompanied by expectoration of thick muco-purulent matter. Sometimes blood-stained, and especially so after a severe paroxysm. This circumstance preyed upon his mind considerably—he thought he had consumption. I learned that he had had a severe attack of acute bronchitis during the spring of 1902 and had been coughing ever since. Physical examination excluded tuberculosis. The diagnosis was chronic bronchitis, sequential to acute. The patient was immediately put on glyco-heroin (Smith) and the same hygienic measures ordered as in case 1. Here again the financial condition of the patient precluded change of climate. In addition to the glyco-heroin (Smith) the patient was given syrup of hypophosphites as a tonic. I did not see him again until last October. He then reported himself absolutely free from cough. He continued taking the glyco-heroin (Smith), and during the present winter has not experienced any return of the trouble. In this case a complete cure was effected by means of quieting the cough and stopping the irritation of the mucous membrane, in this manner allowing the restorative powers of the body, aided by the tonics and good hygiene, to accomplish a cure.

Example.—Miss R. M.; aged 24; teacher. This lady had been coughing ever since she was nineteen years of age. At that time she had had an attack of rheumatism with a complicating bronchitis. After the acute condition had moderated, she continued to cough, the cough being very annoying in character, spasmodic and prolonged. After each paroxysm she was left in a state of exhaustion. During the attacks she urinated involuntarily. On examination she was found to have chronic bronchitis, aggravated by an exceedingly irritable condition of the respiratory tract. The mere odor of cigar smoke was sufficient to induce a paroxysm of coughing. In treating this patient it was necessary to devote attention to the neurasthenia as well as the chronic bronchitis. She was placed on a diet and her mode of living regulated. Arsenic, strychnine and iron in pill form were given. For the cough I ordered glyco-heroin (Smith). The improvement was marked and rapid. The general nervous condition became much improved, the cough grew much less severe and gradually lost its spasmodic character. At the present time it amounts to but little more than a "clearing of the throat." This case, more than any other, demonstrated the excellent properties of glyco-heroin (Smith). The quick relief afforded was surprising and no more gratifying to the patient than to me.